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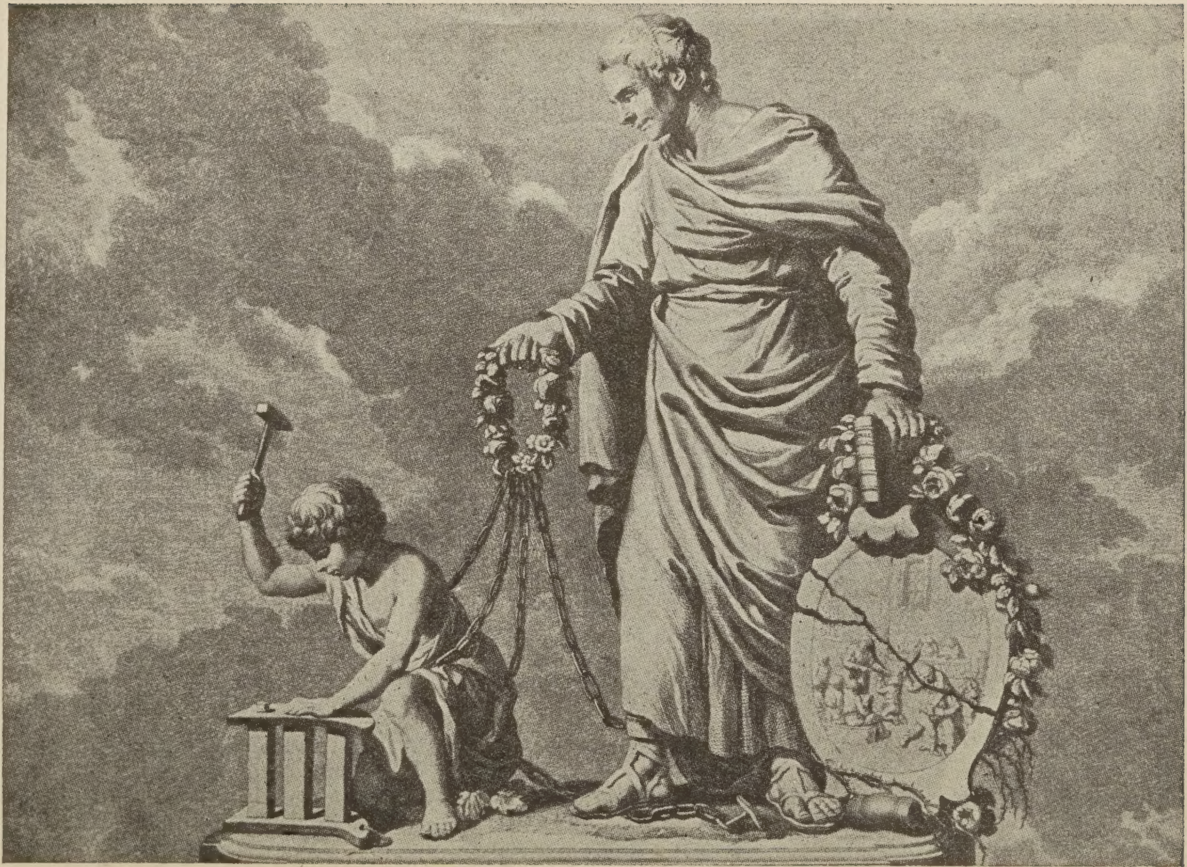
THE DEVELOPMENT OF MODERN EDUCATION



The Old and the New Methods of Education: Rousseau's Monument at Geneva.

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THE DEVELOPMENT OF MODERN EDUCATION

In Theory, Organization, and Practice

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IN GRATEFUL MEMORY

TO

ALBERT HENRY NEWMAN

PREFACE

THE history of education is the story of the totality of man's efforts to create, preserve, and transmit human culture. It has three essential aspects: first, it embraces an account of economic conditions, industrial developments, and social and religious life, in so far as these affect the educational ideas and institutions of the times; second, it considers the contributions of science, philosophy, and art, and the progress of morals, law, and government; third, it treats in detail the schools and all the other agencies that coöperate in the work of education. To write such a detailed account, covering even a short period of time, would prove a superhuman task. Clearly some far less comprehensive conception of the subject is necessary.

In view of this fact, the authors have elected to set forth only a general account of the principal factors that have led to the development of modern education. Moreover, for this simpler project it has been thought advisable to combine, in their due proportions, the three essential aspects mentioned above. There is, naturally, among students of the history of education, no agreement as to the amount of attention that should be devoted to each of these dominant features. In the absence of any consensus of opinion, the authors have followed their own judgment in selecting such material as they felt would be most valuable for the immediate purpose in view. This is, therefore, an attempt, not to write a history of modern education, but merely to trace in outline its general development.

Some will ask in this day of intensive specialization: "Why write a general history of the subject?" The tendency in the field during recent years has been to treat of special aspects or levels; the histories of elementary, secondary, and higher education are familiar examples. Similarly, the histories of physical, industrial, religious, musical, and other aspects of education are now available. Moreover, in recent days a large number of articles, monographs, and books have greatly enriched our knowledge of many special fields, institutions, theories, and epochs. University courses have become more and more broadly diversified in these many lines. Is it not much more valuable for the prospective teacher to study intensively the particular level on which his teaching will be done? Assuredly, much can be said in support of this contention; yet the authors feel that the general course is still of primary importance. Support for this point of view has recently come from the study of general history. In late years there has arisen a marked tendency to revive general courses that will give a broad orientation in history. Specialization has its place, but it must follow the general survey, which furnishes a perspective of the whole subject; specialization cannot be a substitute for such a survey.

The authors have no new and peculiar point of view to offer, no special thesis to propound. They prefer to explain educational movements by letting history tell its own story.

Modern education has become vastly complex. Much that is old persists alongside much that is new; not all reforms have arisen because of any one special causal factor. Our American education is not the result wholly of the French Enlightenment nor entirely of New England democracy nor yet of the Industrial Revolution. A multitude of rivulets were flowing before their confluence took place. Even now, fortunately perhaps, the streams have not been completely swallowed up in the deadening tide of uniformity. We seek to recognize many of these simple beginnings, which have played an important part in forming the system of education in America. Among them were: the Spanish beginnings in Florida, Louisiana, and the Southwest from Texas to California; the influence of the Huguenots, who took refuge in the colonies, and the later effects of the French Enlightenment; the contributions of the Dutch, Swiss, Swedes, Danes, Norwegians, Scotch, and Germans; the influence of the English aristocratic tradition and the democratic movement in Great Britain; the work of Catholic societies and orders; and the services of various Protestant groups, the Pietists, Moravians, Quakers, Lutherans, and Calvinists. Each of these has its own worthy history, which ought not to be passed over with indifference. All of them contributed toward making American education, both public and private, what it is today.

This work has set out to perform definite functions, to aim at certain specific objectives:

First, it aims to be of value more specifically for professional training than for general culture. Not that the authors underestimate the cultural value of the subject. They warmly approve the position of the educator who held that the study of the history of culture is the very capstone of culture and may well be required as the completion of a liberal education. It is, however, believed that the student of educational science will find the historical method of approaching his problems to be an essential one. There are certain aspects of methods, organization, aims, curricula, and so on, which can be treated far more effectively from the historical point of view.

Again, the authors hold that the history of education is by far the best means with which prospective teachers can begin the study of professional education. There are nowadays several more popular introductory subjects, such as educational psychology, educational principles, and, more recently, a number of general orientation courses. Some of these are valuable, perhaps indispensable. However, none of them can wholly take the place of the history of education. When the student is prepared by several years of general academic training and by the ripening experiences of life to enter upon the intensive study of educational science, he will find that the historical approach is of captivating interest.

Among the values claimed for the history of education as an introductory subject are the following:

(1) It is peculiarly fitted to lead over from general culture to the professional field. It partakes of both; it is at once broadly informing, interesting, and cultural and, at the same time, imparts specific knowledge, awakens aptitudes, and raises problems of professional interest. It gives the student a generous orientation that will enable him to find his own line of deepest interest in the various possibilities of the teaching profession.

(2) From long contact with students one comes to see another important value of the subject. It is an admirable means of mental integration. More definitely than any other course that is offered, it requires the student to reflect upon

the elements of his experience. These elements are seen, not as dissociated ideas or single events, but rather as individual units in their proper relation to life as a comprehensive unity. Familiarity with educational ideals, aims, institutions, means, and methods brings about the integration of his circle of experience.

(3) Furthermore, the history of education is a most valuable introduction because it affords the student a genetic approach to the field. The student of education is confronted with hundreds of courses in the subject, and a bewildering array of viewpoints and conclusions. The history of education offers two distinct advantages: (*a*) It follows the genetic order, beginning with education in its original simplicity and leading gradually to its more complex development. (*b*) Again, it always shows the educational process in actual operation in a definite social setting, under specific conditions of life. It exhibits education as a continuous experiment and not as a fixed activity.

The ultimate aim of this work is to explain the origins of education in America, and thus to enable students to know the evolution of education on this continent. America is the heir to European culture, ideals, and practices, and fully acknowledges the indebtedness. However, Americans have never been mere imitators, and there are now manifold indications that they are preparing to reorganize education to harmonize with the new ideals of democracy and of social and economic order.

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INTRODUCTION

IN THE fast changing world of today there is evidence on every hand to indicate that even the most conservative thinker has accepted the view that radical reconstruction of our social life is necessary if we as a nation are to bring ourselves out of these difficult times and to readjust the social order in the interest of human welfare. We can no longer follow a *laissez-faire* policy, characteristic of the 19th century, and avoid such serious calamities as have overtaken us from time to time in our history. There is need for a definitely planned social order if we would avoid further chaos. While thinkers are in disagreement as to methods, they are in full agreement as to fundamental needs. Our problem, therefore, is one of method of procedure.

Moreover, one of the most vital and fundamental considerations of our social life—one that is receiving most continuous attention—is education. In its earlier history, education followed a more or less planless procedure. The scientific movement of the 19th century has had a vast influence upon the schools; the change has led to the expansion of curriculum subject matter and to new methods of instruction. There has been a reëmphasis upon subject-matter values rather than a fundamental change in the purpose and function of education itself or in the schools as instruments of formal instruction.

It is clear that we are today at the crossroads where we shall have to select a new direction, where education must serve a new purpose, if it is to contribute to the solution of the problems of the new social order. Education must be a planned procedure, and not a hit-and-miss process. It must concern itself with the whole individual as a member of our social life, a unit functioning in a complex social order. We can no longer concern ourselves primarily with subject matter and method, however important they may be as means to an end. We shall have to concern ourselves with the whole individual as a living organism in a complex social structure.

The accomplishment of this purpose will require a more critical examination of education as it has developed during the past; for, until we can see, clearly and in detail, the educational movement and the educational heritage, we cannot plan an adequate program for the *new education.* It is therefore imperative that we present such studies of educational history, both general and special, as will enable the new generation of schoolmen to construct out of the present school programs the new education that is to serve and not merely to follow, that is to create new social values and not merely to perpetuate outworn traditions. Consequently, while its value includes a history of what has already taken place, *The Development of Modern Education* will likewise contribute to the future study and determination of the next steps in the building of our new education.

E. GEORGE PAYNE.

THE DEVELOPMENT
OF MODERN EDUCATION

CHAPTER I

THE EDUCATIONAL INHERITANCE FROM ANTIQUITY AND THE MIDDLE AGES

1. Reform Rooted in the Past

European school reform in the sixteenth century. During the 16th century an extraordinary change was effected in the aims, organization, courses of study, methods of instruction, and control of the schools of western Europe. At the beginning of the century, Europe was still Catholic: in the conduct of education, church schools and monastic foundations still held the commanding place that had long been theirs; and while Scholasticism had already exhausted the possibilities of its method, it was still entrenched in church and university. The universities and lower schools were, however, beginning to feel the impact of new economic, political, and intellectual forces.

Humanists were publishing sweeping criticisms of existing institutions; they were advancing constructive plans for reform, were preparing new editions of the classics, and were writing new grammars and dictionaries of the Latin language. Supported by powerful patrons, the Humanists were steadily forcing the champions of the old order in education to give ground. When, in 1653, the Council of Trent closed its final session, the Latin grammar school had reached the form it was to retain for centuries. Colet at St. Paul's in London, Sturm at Strassburg, and the Jesuits—all took leading parts in establishing the organization, curricula, and methods of teaching for the new institution. The grammars of Lily and Melanchthon, as well as the *Colloquies* of Erasmus and of Corderius, had been printed; and these texts were to bring to an end the long reign of the medieval grammarians, Donatus, Priscian, and Alexander de Villa Dei. The place of the school in the social order had been determined. The Middle Ages were passed, and the new era had begun.

Debt of the reformed schools to antiquity. Sweeping as were the changes which brought into existence the common elementary school and the Latin grammar school, the continuity in European culture and education was not broken so completely as many scholars have held. Since the reforms were initiated and brought about by men trained in the old institutions, the reformed schools were not so much founded as refounded.

No educational reformers have leaned more heavily upon the past than did the builders of the 16th-century schools in western Europe. From ancient Rome they took the plan and objectives of the Latin school; likewise, they borrowed the language and literature studied there, and also the excessive emphasis upon mastery of grammar. The sacred books of the reformed schools were the Old and the New Testaments, while their principal articles of faith had been formulated in the early centuries of the Christian Era. The institutional framework within which the innovators labored was an outgrowth of institutions established during the Middle Ages.

While the Latin grammar school of the 16th century grew directly out of the Renaissance, it was intimately related to the later Middle Ages and to the ancient world as well. To understand this type of school, one must bear constantly in mind the long history of scholarship and of school organization, support, control, and methods of teaching that preceded its appearance. One must remember, too, that western Europe, long neglectful even of those books which it possessed and quoted, began only late in the Middle Ages to become intensely interested in the life of the past; hence, not until that period did it turn to the writings of Plato, Xenophon, Cicero, Quintilian, and Plutarch for guidance in planning the reform of education. This debt of the reformers to the past is surveyed in the succeeding text of the present chapter.

2. Education in Ancient Greece

Athens and the beginnings of schools in Europe. Between 1500 and 900 B. C., the Greeks migrated southward, conquered the regions lying on the northeastern shores of the Mediterranean Sea, and laid the foundation of the marvelous culture which was subsequently to flower there. After settling upon the land, the Greeks first engaged in agriculture. Later, regular trade with the Phoenicians and neighboring peoples began, and the Athenians became interested in mining and manufacturing, as well as in commerce. Coinage and written language came into use. And finally, out of ancient tribal organizations the city-state evolved.

The most important educational agency with which a Spartan or an Athenian boy came in contact was the city-state. In Sparta, the education of boys and girls was the principal concern of every citizen and the major responsibility of the magistrates. In Athens, the Council of the Areopagus watched over the children of citizens and guarded them especially against anything that would corrupt their morals. Although the city of Athens did not provide public schools of gymnastics, music, and literature, the laws of Solon recognized the responsibility of parents to educate their children in these arts. Such training of the youth from the age of sixteen to twenty was compulsory and was under the charge of the city. The laws, temples, games, gymnasia, processions, cadet corps and army, and theaters of the city combined to produce—alike in the fine arts and in law and government, letters, religion, philosophy, and social relations—a culture that has been unexcelled in the history of mankind.

Schools in the Age of Pericles. During the early part of the 5th century B. C., it was customary for boys to begin their schooling at about the age of seven. In the palaestrae they engaged in athletic exercises and contests; in the music schools they were taught to read and chant, to do simple arithmetic, and, at a later age, to play the flute and the lyre. Reading they learned by first mastering the alphabet and then repeating after a teacher the words of the Homeric poems. Great emphasis was placed upon correct pronunciation and beauty of speech. The teaching of literature served, not only to impart some knowledge of religion, history, and drama, but also to develop the pupil's power of self-expression. It was intended to train him to perceive the beauty of sound and rhythm and to speak his own language artistically. The old Athenian schools developed a vigorous body, refined the taste, transmitted the cultural heritage of the race, and, within limits, taught each individual to think and to act for himself.

A long time after the creation of the formal school in Athens, literary instruction remained elementary. However, the young men, as members of the ephebic corps, received in that service their final training for citizenship; mingling freely with the older men, the youths participated in gymnastic exercises and religious ceremonies, received systematic instruction in military drill, engineering, and strategy, and learned the Athenian law.

Literary curriculum at the secondary and higher levels. About the beginning of the 5th century B. C., events of great importance in the development of art, literature, and philosophy took place in Athens. The first of these was the adoption of the democratic constitution of Clisthenes, which extended the political privileges of the lower classes of citizens and placed important powers in popular juries, composed of large numbers of citizens. These reforms encouraged the development of the ability to plead before an audience—an art essential both to the politician aspiring to leadership and to the accused citizen forced to persuade the crowd in defense of his life, fortune, or good name.

Other events contributing to the golden age of Athenian civilization were connected with the victories of Greece over Persia. As a result of the Persian wars, Athens developed a large fleet and expanded her commerce and industries enormously. The city was further enriched by having at her command the treasury of the Delian League. Under the pressure of war, democracy had made great strides in Attica; hence it stimulated and brought forward men of genius. Religion, social and moral standards, science, and law—all were affected by the forces introduced into the life of the Grecian city.

While these events were transpiring in Europe, there was beginning in the Ionian cities on the coast of Asia Minor one of the most profound intellectual revolutions in human history. These cities, active in commerce and industry, secured wealth and contacts with other peoples; hence they had leisure to acquire familiarity with foreign ideas and to develop a systematic body of general knowledge. At length a wealthy statesman named Thales, who had learned considerable mathematics and astronomy, predicted an eclipse of the sun which took place in the year 585 B. C. Many had predicted eclipses before him, but Thales' conclusions went beyond those of earlier thinkers: by his astronomical studies he was led to reject the mythological explanation of physical phenomena, and he began to think of the world as belonging to a single natural order. Other Ionians adopted this point of view; pursued the study of mathematics and astronomy far beyond the limits reached by Thales; speculated ingeniously and keenly about the origin and nature of the world; and made a beginning of Greek scholarship in geography, history, science, and philosophy. Men refused any longer to regard events as expressions of the whims and caprices of manlike gods; they attempted, rather, to deal with events as if they could actually be understood and even controlled. Interest in science and in the study of social and metaphysical problems became intense. Soon the new intellectual movement spread throughout the Greek world, and found a particularly congenial home in southern Italy, whither Pythagoras, one of the greatest of the Ionians, migrated.

The achievements of Thales and his successors were so considerable and so widely investigated that when, after the Persian wars, there arose at Athens—in addition to a strong practical demand for a type of training that would enable one to speak effectively in public, to conduct his affairs successfully, and to cultivate his character as well—a general curiosity to learn something of the new sciences, there were men who themselves offered to furnish the Athenians with the knowledge and skills they were seeking. Although these teachers, called *Sophists* (that is, wise men), were men of all grades of learning and ability, one contribution from them remains outstanding: as teachers of language, morals, government, literature, mathematics, and science, they established in Greece a curriculum that definitely disciplined and enriched the intellectual life.

Individualism in Athenian life. Because the Sophists held most diverse opinions, a unified system of doctrine can scarcely be attributed to them. Yet their teaching had two specific effects: it popularized the naturalism of the earlier philosophers, and it stimulated the growth of individualism.

The words of Protagoras, "Man is the measure of all things," became a sort of watchword; glib fellows arraigned at the bar of reason the myths and maxims which epitomized Greek beliefs respecting moral, legal, scientific, and theological matters.

The systematic philosophers. There were many Athenians who at that time saw the traditional order changing before their eyes, and this disintegration of former social codes and civic practices caused them profound concern. Such upbringing of the young as would insure the preservation of society and the state had long been the foremost object of public discussion in Greece; now it became the motive force which inspired many of the creations of Greek genius. Most of the literature and philosophy of the grandest era of ancient history grew out of discussions of the many intricate questions which pressed that period for solution.

In the welter of social, moral, economic, and political changes, several fundamental problems took definite form: Is virtue teachable? Is it a natural endowment, a gift of God, or the result of practice and habit? Is education a function of the family? of the state? or, of both? What subjects should form the curricula of the schools? Such were the great civic problems in the focus of Athenian thought. They furnished the motive for the activities of the Sophists, the teachings of Socrates, and the epochal works of Aristophanes, Plato, Aristotle, and Plutarch.

As might be expected, there was a large and respectable party who believed that a speedy return to the old ways was desirable. Aristophanes, the celebrated writer of comedies, was a representative of this point of view. He poured unsparing ridicule upon the newly rich, the younger generation, the advocates of political rights for women, and especially upon the Sophists and the new education. The cure for current ills, he declared, was a return to the ideals and system of training which produced the men who fought at Marathon.

Socrates. This philosopher was as genuinely concerned with the problem of morals as were the conservatives. He believed sincerely in the reality of virtue and in the significance of moral principles. His most characteristic doctrines were:, (1) Virtue is knowledge, and is teachable. (2) The knowledge that man especially needs is knowledge of himself. With Socrates, philosophy turns from nature, as the central subject of discussion, to human nature. By unreflective opinion people are hindered in securing knowledge, so Socrates believed; hence, the singular advantage which he enjoyed over others of his day consisted in his recognition of his own ignorance. He was accustomed to go about the streets engaging in discussion of ethical questions. With adroit questions he would involve his opponent in a maze of contradictory statements. Then, the errors would be made apparent, and a basis for mutual understanding reached.

The interest of Socrates in problems of ethics and politics and his neglect of the physical sciences gave direction to the speculations of various groups of his successors, several of whom founded great systems of philosophy.

Plato. This philosopher was the greatest of the followers of Socrates. He was interested in problems of ethical life and, like his teacher, he believed that virtue is knowledge. The good life is the just life; and the just life is the life ordered by wisdom. The just state, moreover, is the state ordered by the wise. Such an ideal state he described in *The Republic,* a work which has exercised an extraordinary influence upon succeeding generations.

The Republic and a later dialogue, *The Laws,* contain elaborate plans of education. However, these plans affected the course of educational development much less than did his fundamental doctrine that ideas do not arise through experience, but are preëxistent or innate. He believed that the soul is eternal, existing before the body and surviving it. In the world which it inhabits before birth, the soul is in contact with reality, and so apprehends truth. Wisdom and justice, the two supreme virtues, are not acquired by exercise and habit, as are the other virtues, courage and temperance. The exalted virtues, wisdom and justice, are attained by reflection—that is, by "a continuous discourse with one's self." It is in reflection, not in action, that contact is established with the world of reality. The capacity for reflective thinking, or dialectic, is possessed by few people. Learning is neither an affair of the work-a-day world nor a concern of ordinary mortals. The cloistered student, engaged in contemplation, represents scholarship and virtue at their best. The training of artisans, farmers, engineers, and people engaged in commercial pursuits received brief mention in the dialogues; but the study of mathematics, music, and dialectic was accounted the noblest of human activities.

By his system of philosophy, Plato so profoundly influenced Christian theology that one of the later Church Fathers called him the "Attic Moses." The Academy, the school of philosophy which Plato founded and endowed, survived in early Christian centuries, and found a place among the schools of the so-called "University of Athens."

Aristotle. In Aristotle's *Politics* and *Ethics,* the sections devoted to education are brief, and they contributed little to advance pedagogical theory beyond the point to which it had been brought by his predecessors. He made, however, an important contribution to the progress of education in another direction. Neither in the teachings of Plato nor in those of the Sophists and philosophers who preceded him are the various subjects of human knowledge clearly differentiated. Aristotle succeeded in separating into well-defined fields the enormous fund of knowledge at his command, in order to treat separately the physical sciences, rhetoric, aesthetics, psychology, logic, ethics, political science, and metaphysics. His works gave content and form to the courses of study in the medieval universities; and his writings on logic, politics, rhetoric, aesthetics, and metaphysics are still significant as systematic treatises. Aristotle was the founder of the school of philosophy known as the *Lyceum.* Within a hundred years after his death, which took place in the year 322 B. C., two other systems of philosophy, the Stoic and the Epicurean, had appeared and obtained large followings.

Organization of the Greek school system. Following the Age of Pericles, important changes took place in the training of the youth. Elementary teachers taught their pupils longer, and rhetoricians instructed them at a younger age. Gradually the three levels of training—elementary, secondary, and higher—were formed. These stages, however, were never so sharply differentiated as they have become in our modern educational world.

Elementary education was not greatly changed. It included reading, writing, spelling, calculation, music, literature, morals, religion, and gymnastics. The only significant addition to the traditional curricula was drawing. This training was innovated in response to the artistic needs of the times.

Secondary education formed a new unit, leading to the higher education in rhetoric, philosophy, and other interests. The secondary curriculum, called the *encyclopedia* (that is, the circle of studies), embraced grammar; literature, with criticism and composition; music; drawing; geography; arithmetic and geometry; theories of the nature philosophers; and gymnastics. This curriculum was intended as a liberal preparation for the schools of the rhetoricians and the philosophers.

Literary education everywhere became a matter of public concern. The cities and towns in all lands which came under the spell of Hellenic culture instituted schools at public expense and under civic control. The opportunities for education were available to most boys, especially those of promise and intelligence.

The University of Athens. In old Athens the young candidates for citizenship spent a large part of their time between the ages of sixteen and eighteen years in one or another of the public gymnasia, where they associated with the older men and engaged in athletic contests. At the age of eighteen, they were enrolled in the ephebic corps, and spent two years in religious, military, and social training which was to prepare them for the duties of citizenship. Shortly before Plato began to teach at the Academy, Isocrates, the most famous Athenian teacher of oratory, opened a school for special instruction in rhetoric and oratory; here, leaders in civic and national affairs were to be trained in these subjects. As rhetoric, oratory, and philosophy grew popular, the training of the epheboi was modified. Instruction in rhetoric, oratory, and philosophy became recognized as a part of the system of education offered and controlled by the city. In the 2nd century B. C., Athens came under the domination of Rome, and early in the Christian Era, the Roman emperors became patrons of Athenian culture and organized the teaching of rhetoric, oratory, and philosophy into a university. Important privileges and exemptions were granted to teachers of these higher studies, and salaries, paid out of imperial funds, were attached to certain chairs.

Spread of Greek scholarship in Asia and Africa. Late in the 4th century B. C., Alexander the Great, having succeeded his father as King of Macedon and completed the subjugation of the Greek states, invaded Asia and Egypt. In the territory which he conquered, he established a number of Greek cities, of which Alexandria, near the mouth of the Nile, is the most famous. These cities were centers of Greek life and culture, where Greek literature, science, and philosophy continued to be studied during the prolonged period of unenlightenment in which they were lost to the western, Christian world.

The University of Alexandria. The Ptolemies, who ruled Egypt after the time of Alexander the Great, established at Alexandria a temple of the Muses, or museum of learned arts, at which lived the most famous group of scientists ever assembled in the ancient world. Professor J. H. Breasted declares that these men "formed the first scientific institution founded and supported by a government."[1] The members of this remarkable community devoted themselves to study, for which libraries and equipment were provided by liberal rulers. Here, the first dictionaries were made; the first grammar appeared; Euclid built up a complete system of geometry; research, not equalled until the Modern Age, was done in medicine and surgery; Ptolemy wrote the astronomical treatise that was for many centuries the authoritative word in astronomy; research of significant value was done in the fields of physics and other sciences; and editions of the greatest Greek literary masterpieces were prepared. While the creative writers of Alexandria never equalled those of Athens in the 5th and 4th centuries B. C., a vast labor of comparison and sifting was accomplished; and scientific and critical achievements of a high order resulted. Knowledge in many fields was reduced to a summary form in which, unchanged, it has been handed on to succeeding generations.

3. Education Among the Romans

Education in early Rome. Until well into the 3rd century B. C., the family was the principal agency at Rome for the education of children. Parents in early times, at Rome as at Athens, gave careful supervision to the speech and behavior of their children, and carefully regulated their habits and attitudes in the household. Children shared in the work of house and farm, and witnessed assemblies and religious festivals. Moreover, many children were taught at home to read. After 450 B. C., it was customary for young boys to commit to memory the Laws of the Twelve Tables. On assuming the toga at sixteen, the youths were taught the military arts by service in the army.

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[1] Breasted, J. H., *Ancient Times,* pp. 468–469. Boston, Ginn & Company, 1916.

Thus, under rigorous discipline and by participation in the life of his group, the young Roman was prepared to take up, on reaching his majority, the duties of citizenship, the care of his property, and the governing of his household. There was in his education practically no literary cultivation.

Roman schools modeled after the Greek. Early in the 3rd century B. C., the conquests of Rome were extended to the Greek cities of southern Italy; a few decades later, Rome launched a series of foreign wars which resulted in the conquest of the chief centers of Greek culture. Livius Andronicus, a young Greek from the south of Italy, was brought captive to Rome, where he taught Greek and Latin and, about the middle of the century, translated the *Odyssey* into Latin. Spurius Carvilius, a Greek freedman, opened a grammar school. Just as the century was drawing to a close, the poet Ennius, of mixed Greek and Roman parentage, lived at Rome, where he was a teacher of Greek and Latin. Crates, a Greek grammarian, came to Rome about 169 B. C. as ambassador from Attalus. While in Rome, he broke his leg, and to relieve the tedium of his convalescence, he gave lectures on Greek grammar and literature.

Soon, schools modeled after those of the Hellenic world were established; and in spite of official opposition to them, they won a permanent place in the life of the city. During the last century before the Christian Era, it had been the fashion for prominent Romans to educate their sons in Greek schools, and many young men completed their education by residence at Athens, Rhodes, or Alexandria; before the beginning of the era, moreover, the schools of grammar and rhetoric were the recognized avenues of entrance into public life. Cicero's *De Oratore,* written in 55 B. C., marks the completion of the first stage of development of the Hellenized Latin school.

Not all the aspects of Greek training were taken over by the Romans. Little attention was devoted to music or gymnastic training; the trumpet remained the favorite musical instrument of the Romans, and the hard work of the farm and the drill ground developed strength and endurance. Practical arts, like agriculture, architecture, engineering, and mechanics—subjects neglected by the ancient Greek schools—received much attention. The tastes of the Romans in philosophy were strongly tempered by professional and practical interests: physicians inclined to Epicureanism because of its scientific elements, and statesmen tended to Stoicism, a system congenial to the ethical and legal standards of the Roman aristocracy.

It is not to be supposed, however, that the Romans wholly neglected the liberal arts. Grammar, rhetoric, dialectic, arithmetic, astronomy, music, history, and literature were taught in their schools. Grammar, indeed, held a fundamental position in the Roman system of education. About 90 B. C., it is said, a Greek grammarian, called Dionysius Thrax, wrote, for the benefit of his Roman pupils, the first formal grammar of the Greek language. As noted earlier, Greek grammar schools flourished at Rome in the last century B. C. Now, Roman teachers began to formulate the grammar of the Latin language and, by 90 A. D., had given it virtually its final form. In the 4th century of the Christian Era, Donatus wrote his *Ars Minor*, an introduction to Latin grammar; and about a hundred years later, Priscian wrote an extended treatise on the subject. During the Middle Ages, the work of Donatus was the most universally used introduction to grammar, while Priscian's bulky compendium was the standard Latin grammar until long after the Renaissance. Medieval grammarians made no real advance on the work of these men.

Complete organization of the Roman schools. By 100 A. D., Rome had developed a complete system of schools: elementary, secondary, higher, and professional. In the elementary school, reading, penmanship, and elementary arithmetic were taught by the *literator*, or *ludimagister*. In a few of these schools, the boys began the study of the Greek language. The next school was that of the *grammaticus*, or *literatus*. The subject most emphasized in this school was grammar; and the students were introduced to the elements of all of the *Seven Liberal Arts,*[2] which were, however, not as yet known by this name.

The grammar school received during the 1st Christian century much the same organization and course of study that it was to retain in Europe for more than fifteen hundred years; for the institution survived in attenuated form all through the Middle Ages and, because it reflected the views of Quintilian, served as a model for the Renaissance secondary school. Higher than the grammar schools and not differentiated clearly from them or from the professional schools, were the schools of the *rhetors.* These schools offered to young men destined for public life, instruction in rhetoric, literature, philosophy, history, and dialectic. Libraries and professional schools of law, medicine, and engineering were also established.

Imperial patronage of higher education. Julius Caesar and Augustus Caesar showed special favor to teachers of grammar and rhetoric. Claudius, in 54 A. D., founded a new museum at Alexandria. Vespasian established a library at Rome, out of which grew the Atheneum; and he set a precedent—followed by his successors—of paying out of imperial funds the salaries of a number of higher teachers. In time, teachers came to enjoy the rights and exemptions of the equestrian and senatorial orders. Late in the 4th century, salaries were provided for teachers in all the great cities of the Roman Empire. As the imperial government extended its appropriations to schools, it extended its control over them, until, in 425 A. D., the authority to establish schools was declared to belong to the emperor alone.

4. Early Christian Education

Hebrew background of Christianity. Three lines of influence converged to form the schools of medieval Europe: one, through the Greeks; a second, through Rome; and a third, through Christianity. Behind Christianity, as behind Athens and Rome, lay centuries of cultural achievement; but so profoundly did the Greeks, the Romans, and the early Christians alter their respective inheritances, and so germinal were the contributions which they made to feeling, thought, and action, that one may, with much justification, say that the foundations of our present western civilization were laid, between 700 B. C. and 350 A. D., in Athens, Rome, and Palestine.

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[2] The Seven Liberal Arts included the *trivium:* grammar, rhetoric, and dialectic; and the *quadrivium:* arithmetic, geometry, astronomy, and music.

The founder of Christianity, born about the twenty-seventh year of the reign of Augustus Caesar, was reared in a middle class Hebrew home and had apparently little contact with the culture and learning of other peoples. His immediate followers were Hebrews, and from the founding of the church the Hebrew Scriptures were the sacred literature of all Christians.

The Scriptures teach that God is one, and that His supreme requirements of those who worship Him are mercy, justice, integrity, and humility. The moral code of the Old Testament emphasizes the qualities of benevolence, personal chastity, respect for human life and property, pity, respect for parents, and, above all, reverence toward God. This code became an integral part of Christian ethics.

While the Greeks prized intellectual curiosity, magnanimity, self-assertion, and beauty, and the Romans esteemed strength, self-reliance, competence in practical affairs, and patriotism, the early church exalted the qualities of faith, brotherly love, patience, self-abnegation, and contempt of material possessions and worldly pleasures. The Greeks took the utmost pride in the care of their bodies, and both they and the Romans cultivated pleasures of the senses as important means to happiness. The Christians believed that the body should be "brought under subjection," and that the delights of this world were a snare of the Devil to destroy the soul. "Love not the world . . . " is a command expressing Christian ethics, which represented the very antithesis of the Greek and the Roman views.

Development of an elaborate system of theology and government. Because the early Christians regarded all other religions as false and pernicious, they soon came into conflict with the Roman authorities and with their non-Christian neighbors. For a time they endured bitter persecutions, but were finally tolerated within the Roman Empire in 311 A. D., and later became its masters. Their ecclesiastical machinery, which had been very simple in the 1st and 2nd centuries, was elaborated somewhat after the pattern of Roman political institutions. As the centuries wore on, the dignity and power gradually acquired by the Bishop of Rome became comparable to that earlier exercised by the emperor. Other bishops exercised authority over areas roughly corresponding to those ruled by Roman governors, and the local clergy held in the life of the city a place analogous to that held by municipal officials in the days of the empire. Privileges enjoyed in pagan Rome by members of the senatorial and equestrian orders and those granted by the emperors to rhetoricians and grammarians, were approximated by those granted to the clergy.

The elaboration of Christian theology paralleled the development of church government. Jewish theology and Greek metaphysics furnished a background for the growth, within five centuries, of a most complex system of Christian doctrine—a system which has been ever since a subject of major interest to European students. More particularly, the theological system of St. Augustine in the 5th century formulated the orthodoxy of the Roman Catholic Church and, through more than a thousand years, was a stimulating source of intellectual and spiritual power to all who studied it.

Recruited for the most part from the poor and uneducated classes of the Graeco-Roman world, and living in conflict with the culture of the age, the early Christians had little sympathy with pagan schools. The New Testament makes it clear that, from the beginning, teaching was recognized as an essential function of the Christian home and church. Instruction was concerned with morality, religious mysteries, knowledge of the Scriptures, and the conduct of worship. Out of this instruction, given in home and church, there soon developed regular classes for the guidance of persons seeking baptism. These classes were conducted more particularly for inquirers, or catechumens—converted pagans who were ignorant of the first principles of Christian theology and morals. For this reason the gatherings were called *catechumenal* schools. They are significant in the history of education because they indicate that early Christians recognized the importance of instruction for the maintenance of the new faith; they realized that, unless these attitudes and doctrines were *taught* to the people, the church could not continue to exist. The catechumenal school, as such, lasted for several centuries, and has continued, although in altered form, among the ceremonials of the church.

Meanwhile there was instituted in the cathedral churches, which formed the seats of the bishops, another means of instruction destined to grow into extraordinary significance. After the apostolic age, the custom of taking into the household of a bishop those boys and young men who were to be trained for the Christian ministry, became a common practice. These candidates were given instruction in theology and trained for the priesthood in the cathedral churches. Such was the origin of the *bishops'* schools.

During the 2nd century many individuals educated in the Hellenistic learning were converted to Christianity. In Egypt, particularly, there were a number of converts who were trained in Greek philosophy, grammar, and rhetoric. Subsequently, in an effort to employ Greek scholarship to counteract scepticism, paganism, and the views of opposing sects, schools were established, under Christian auspices, to permit these men to further the education of Christian leaders. These institutions, called *catechetical* schools, offered instruction in literature, in all of the sciences then studied, and in all of the systems of philosophy except the Epicurean. Instruction in the Scriptures and in theology comprised the major courses of study. The first of the great catechetical schools, that at Alexandria, is known to have been in a flourishing condition late in the 2nd and in the first quarter of the 3rd century. This type of institution reached its greatest development in the eastern branch of the Roman Empire, where it persisted for several centuries.

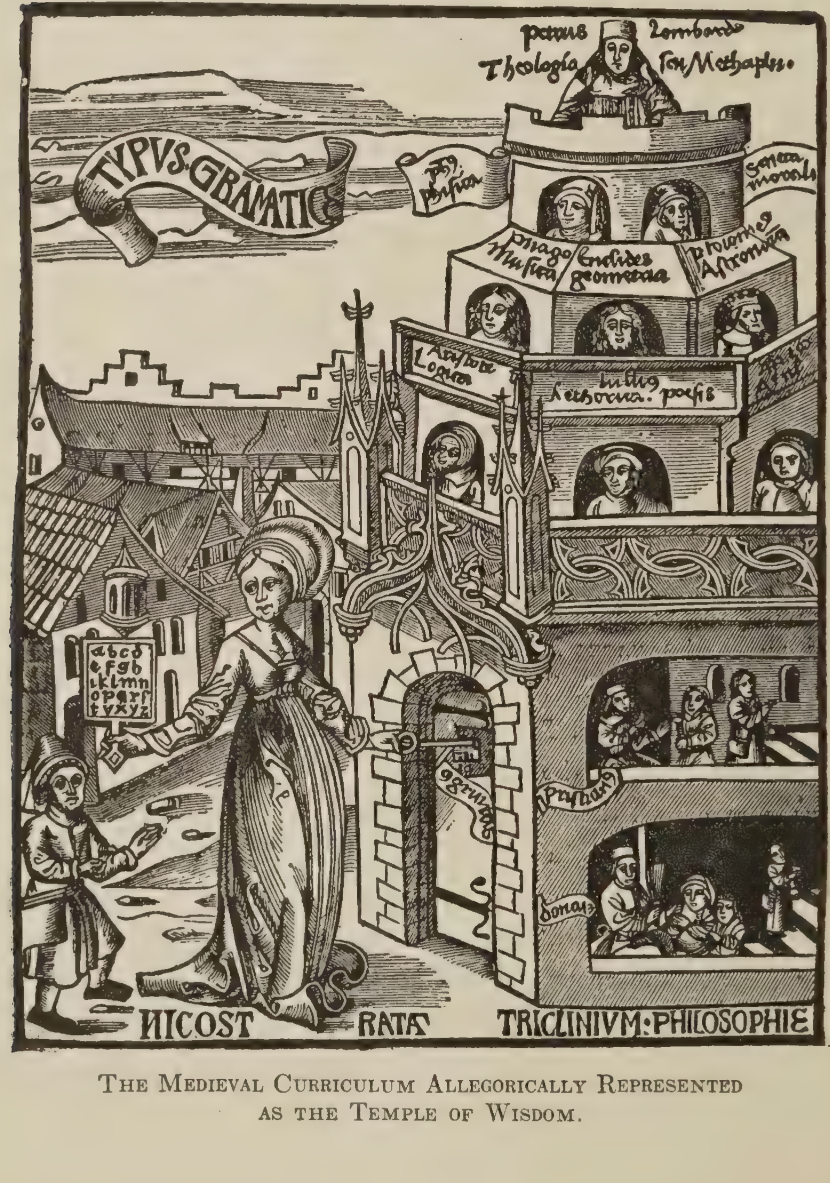
5. Schools in the Middle Ages

Cathedral schools. While the schools of western Europe were influenced by both catechumenal and catechetical schools, the line of educational development does not lie through them, but is probably to be traced through the bishops' schools, which superseded the schools of the Roman Empire. By the first half of the 6th century, cathedral churches were centers of instruction; and for centuries after that, the bishops retained direction of all education outside the monasteries. In the early days of the cathedral schools, some of the bishops themselves taught and wrote texts. In the 6th century, Isidore of Seville wrote a famous encyclopedia. Somewhat later, Theodore of Tarsus, Archbishop of Canterbury, became famous as a teacher, as did some of his pupils, who themselves became bishops and abbots. After this period, it was customary to have in every chapter, a schoolmaster who was known as the *scholasticus*, *magister scholarum*, or *archischola*. Instruction was offered in theology; in the Seven Liberal Arts, which served as a basis for the study of theology; and in choral music, which was needed for the elaborate ritual of the church services.

Monasteries and convents in medieval education. Quite early in the history of Christianity, it became common, for persons desiring to live an especially holy life, to withdraw from general society and to devote themselves to religious exercises and meditation. Because such persons lived alone, they were called *monks*. The name was retained later as the appellation for all persons who devoted themselves to a religious life apart from the world, even though the practice became usual for such persons to reside in communities (called *monasteries*) made up of members vowed to live under rules. The institution grew in favor and, consequently, in organization. During the 6th century, St. Benedict formulated for monastic communities rules that have ever since been approved and followed by religious authorities. Education was promoted by those sections of the rules which required monks to devote a part of each day to reading and copying manuscripts; and the religious exercises, the discipline, and even the manual labor which other sections prescribed have a certain educative character.

Since the monasteries afforded support and facilities for writers and copyists, most of the literary work of the Middle Ages was done in them. Charlemagne required grammar schools to be established in every monastery and cathedral church, and ordered other steps taken to improve the scholarship of the clergy. The monasteries fostered many of the fine arts —such as, architecture, music, manuscript illumination—and, in truth, may be said to have introduced among the barbarian tribes of northern Europe the arts of civilization.

Contacts of western culture with Greek science and literature. It has been pointed out that in the eastern branch of the Roman Empire the catechetical schools, which were essentially Christian colleges or similar Christian institutions, supplanted the pagan schools. Although these institutions were harassed at times, they maintained an unbroken tradition of scholarship during the very period in which western Europe knew least of Greek science and literature. The at-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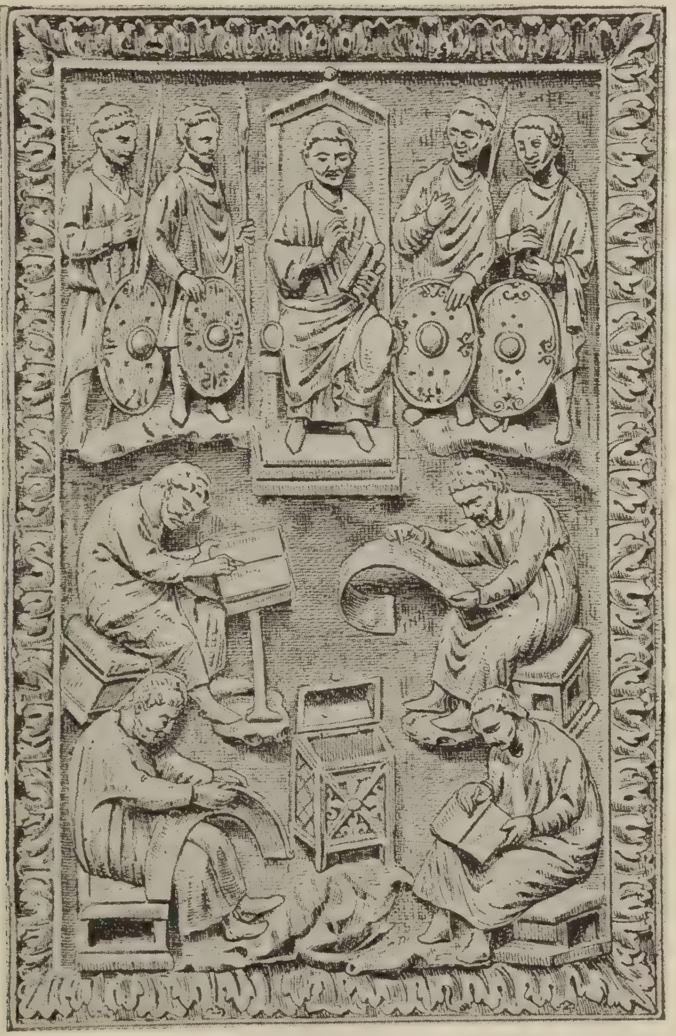
The Medieval Curriculum Allegorically Represented as the Temple of Wisdom.

tempt to Latinize Greek lands, which had reached its highest point when Justinian closed the schools at Athens in 529 A. D., had spent itself by the 7th century. Greek became the tongue of the Eastern Empire, and a university was established at Constantinople. Byzantine scholarship was fairly launched.

But the work of the catechetical schools was not yet completed. Some of them survived the pagan attacks and were preserved among the Nestorian Christians, who, with Bishop



A Monastic Scriptorium.

Nestorius, had been driven out of Constantinople and had taken refuge in Syria. Hence, at Byzantium and in the Nestorian schools of Syria, the ancient Greek learning was continued long after it had disappeared in the western schools.

For centuries following the Mohammedan conquest of western Asia, Jewish and Christian scholars were protected by the caliphs, and a remarkable body of learned and imaginative literature was produced in Moslem lands. At the Nestorian school at Nisibis, many of the writings of Aristotle were translated into Arabic. The Moors in Spain introduced into western Europe not only these works of Aristotle but also much other Greek science and literature that had been quite generally forgotten in western Europe.

There were other agencies also which, long before the Renaissance, kept up the contact between Greek scholarship and western civilization. Theodore of Tarsus, made Archbishop of Canterbury in 669, initiated in England a real tradition of Greek scholarship. Greek merchants had long assumed control of the trade between Europe and the Levant; and when the Italian cities took over this profitable business, contact with western Asia continued unbroken. The influx of Greek monks into Italy in the 9th century was so heavy as definitely to influence the character of western monasticism. During the Crusades, contacts between the Levant and western Europe multiplied and probably served to stimulate the intellectual quickening of the 11th and 12th centuries.

Rise of the universities and development of Scholasticism. The terms *college* and *university* are of Latin origin. There early developed among the Romans certain associations of individuals for the discharge of definite social, religious, political, or economic functions. These groups, which were essentially corporations—with functions, rights, and duties recognized by the state authorities and by the general public—were called *colleges.* To illustrate, there were in early Rome colleges of augurs, of praetors, and of tribunes; while under the empire the term came to be applied also to the various guilds: those of the merchants, metal workers, carpenters, and so on. Members of colleges were called *colleagues;* that is, persons "bound together." It is important to notice that membership in a college involved special rights, duties, and privileges that might be assumed or won only within one's social class. In the Middle Ages, corporations held an exceedingly important place in the social structure, and the evolution of educational institutions was profoundly affected by them.

The Christian church adapted the organization of the college to its use, and gradually developed the chapters known as *canons* and *collegiate churches.* As time went on, schools were founded at collegiate churches, and livings and endowed residences for priests and students were established in connection with them; then, in a few instances, out of these beginnings great universities grew. At length the term *college* came to mean an institution devoted to secondary and higher education.

The earliest universities—Bologna, Paris, and Oxford—can scarcely be said to have been founded; they simply grew out of existing schools. When a center became famous for its teachers of theology, law, medicine, or the liberal arts, and students from all parts of Christendom resorted to it, the center was called a *studium generale.* Students and teachers at such establishments formed themselves into guilds, and adopted the medieval term for a guild, or corporate body, *universitas.* Because popes, emperors, kings, and municipalities conferred upon the universities various rights and privileges, membership in a university became a road to social and economic benefit. Universities proved of such advantage to civil and ecclesiastical authorities that, in the 13th, 14th, and 15th centuries, many similar institutions were founded by princes of church and state.

The medieval universities are so deeply rooted in the life of their age that no complete analysis of the forces which contributed to their rise can be attempted here. Briefly, they were affected by the Crusades and by the economic and industrial advances which were made in the later Middle Ages. They were also influenced greatly by the growing power of the papacy and the increased unity of the Roman Catholic Church. Most important, however, of all the forces contributing to their growth was the increase in human knowledge between 1100 and 1350.

It will be recalled that the great monuments of Greek literature and science were never wholly lost, although for centuries the majority of western scholars had no acquaintance with these works save in the form of epitomes. In the 10th and 11th centuries, Moslem scholars carried Greek learning, the "Arabic notation," and algebra to Spain, where western scholars came into contact with these subjects. Many Arabic works—including Avicenna's *Canon,* a medical work; Ptolemy's *Almagest;* and the works of Aristotle—were translated into Latin. A system of medicine, based on the works of Hippocrates and Galen, had in the 11th century established itself as a subject of study at Salerno. Early in the 12th century, Irnerius won fame as a teacher of law at Bologna, and Abelard stirred the mind of western Europe with his new method of teaching logic and theology. Before the century was half gone, Gratian had made canon law a subject of university study; and Burgundio of Pisa had translated into Latin the *Pandects* of Justinian and the great work of eastern Scholasticism, *The Fountain of Knowledge,* written by John of Damascus.

Aristotle was especially admired. His three philosophies—Natural, Moral, and Rational—together with the Seven Liberal Arts, made up the curriculum of the Faculty of Arts, which was the basic faculty in medieval universities. The professional subjects—theology, law, and medicine—were cast in a mold furnished by his system of logic as adapted by medieval scholars. The method employed by medieval university students is known as the *scholastic* method, and has given the name *Scholasticism* to the intellectual movement which dominated European thought from about 1100 A. D. until the 16th century.

Training of social and political leaders among the laymen. Medieval society was divided into many classes. Members of the lowest class were virtually without instruction, and laws were actually passed in some countries to prevent their attending schools. The clergy possessed a monopoly of the monastic and cathedral schools, as well as of the universities. With the rise of chivalry, schools were established in the palaces of great nobles, where many of the gentry received an education in which the intellectual element was subordinated to a training especially adapted to fit them for the duties belonging to their stations, as warriors, rulers, diplomats, and masters of landed estates. This instruction was called *chivalric,* or *courtly,* education.

Chivalric education reached its highest development in the 13th century, during which its greatest manual, *De Regimine Principum*, was produced by Egidio Colonna. Although the origins of chivalric education are obscure, it is clear enough that, like chivalry itself, this form of education developed, along with the medieval manor and court, out of ancient Roman and northern European institutions.

Just as the Roman *familia* was an important agency of education for boys of high social station, so, as feudal life grew more complex and as courts became more splendid, the training of high-born children developed into a system no less complete than that offered by grammar school and university combined. Religion; the German, French, and English tongues; the customs of great houses, courts, and armies; heraldry, the use of arms, dancing, music, chess, and field sports—all had to be mastered by the lad in training for knightly rank. Nor were the Seven Liberal Arts, history, law, or practical economics wholly neglected. Girls of noble families, likewise, received training appropriate to their station. The daughter of a noble house was usually placed at an early age in a convent, and there trained until adolescence, when she was sent to the "bower" of some noble lady. Here, her education in courtesy was completed, and she was afforded opportunity to meet young men of marriageable age and suitable rank. The education of the young gentleman culminated in an impressive ceremony whereby he was dubbed a knight. Chivalric education cultivated both morale and refinement of manners; these characteristics constitute its greatest contributions to western civilization. It did little, however, to advance liberal culture.

Laws and courts in the Middle Ages. The Roman government developed through the centuries of its existence a large body of laws. At the beginning of the Middle Ages the Emperor Justinian ordered jurists to codify the imperial edicts and the rulings of the Roman lawyers, and to prepare a textbook, later known as *The Institutes of Justinian.* About this time the barbarians who had established kingdoms in western Europe reduced their laws to writing. But the feudal anarchy that engulfed Europe after the death of Charlemagne rendered such systems of law virtually inoperative.

In the 11th century, with its great expansion of commerce, a revival of Roman law began in Italy; its most famous teacher was Irnerius of Bologna. This revival spread to all parts of Europe, and various countries developed systems of law that were essentially Roman in structure and content. In France, Roman law virtually reconstituted the monarchy. England developed a different system, but it was, nevertheless, profoundly affected by Roman law. Oxford and Cambridge taught the Roman law; however, the laws of England were taught in the Inns of the Court and of Chancery. The languages employed by English law were Latin, Norman French, and English. This use of English in the teaching of law is the first instance of its employment in higher education. Late in the Middle Ages the old feudal laws were supplanted in German lands by Roman law, when it swept the country in what German jurists call *the Reception.* The transformation wrought in Germany by the Roman law unquestionably contributed to the Reformation.

Parallel to the use of Roman civil law and English law there developed a body of ecclesiastical, or canon, law. A large collection of these laws, known as *The Decretals,* was made in the 12th century by Gratian. This canon law was used in the church courts, which claimed sole jurisdiction in matters affecting the clergy, and in all matters affecting moral conduct and religious belief. The church authorities extended the jurisdiction of such courts to cover almost all acts and relations of men. Accordingly, civil disputes and matters involving marriages, inheritances, contracts, schools, and criminal actions were carried to the ecclesiastical courts. This practice led to various abuses, and secular governments attempted to subject ecclesiastical courts to civil authorities, and thus to curb priestly power. A famous instance of such attempts to check the power of ecclesiastical courts was the publication of the Constitutions of Clarendon—one article of which decreed that the courts of the King of England should decide, in cases of disputed jurisdiction, whether suits should be tried in church courts or in the king's courts.

Effects of the establishment of systems of law. The development of civil law had important effects upon education: (1) The various legal systems were the outcome of intellectual efforts of a high order, necessitated by the increasing complexity of human relations. In their effect upon the human spirit, these efforts are worthy to be ranked with the contributions in natural science, humane letters, and the fine arts. (2) These systems of law contributed to the development of western political institutions, which in turn conditioned the development of schools. (3) The feudal courts, the ecclesiastical courts, and the king's courts served as checks on one another, and, hence, indirectly assisted in the establishment of free institutions. (4) Lawyers constituted a powerful secular group, who on numerous occasions opposed the claims of the clergy but who, nevertheless, were often bitterly hated by the common people.

Education in the towns during the later Middle Ages. In the later Middle Ages, manufacturing and commerce grew rapidly, and the growth of cities kept pace with this development. For purposes of government as well as mutual help, craftsmen and merchants organized by occupations and by communities into guilds, or corporations. Municipal corporations governed the cities, and in most cases established local schools.

6. The Renaissance

The Renaissance in Italy. The intellectual history of Europe is marked by a number of periods in which, for a short space of time, all fine and liberal arts flourished. One of the most notable of these periods occurred at the close of the Middle Ages. It is called the *Renaissance*, or rebirth, for scholars feel that the period witnessed the rebirth of human culture.

Characteristic developments in the intellectual life of the period were: the revival of the historical method of study, and the subsequent close of the reign of Scholasticism; the revival of the study of the Greek and Hebrew languages; a quickened interest in the study of the life and literature of antiquity; splendid creative work in the fine arts and in vernacular literatures; and rapid growth both of individualism and of national feeling. The quickened interest in antiquity and the revival of Greek studies seem to have been the most significant movements of this period. In the 14th century, Dante, Petrarch, Boccaccio, and Chaucer all lived and wrote. Boccaccio learned Greek, and, as the century drew to a close, there was established at Florence the first modern chair of Greek to be set up in the western world. Princes and bankers were patrons of the new movements, and provided support for artists, writers, and critical scholars. Libraries were established, while Europe was ransacked for books. Modern textual and historical criticism was developed.

Humanism north of the Alps. The rebirth of scholarship, literature, and the fine arts was not long confined to Italy. It quickly made its way to the Netherlands, France, Spain, Germany, and England, where it became established in the 15th century. A chief feature of the new learning in Germany, Holland, and England was the great interest in Biblical scholarship. A new religious order of the Catholic Church, known as the *Brethren of the Common Life*, or the *Hieronymians*, was established in Holland in 1384. Its leading scholars in the 15th century were Humanists, who were especially interested in the study of the Old Testament in Hebrew, and the New Testament in Greek. The greatest of the students trained by the Hieronymians was Erasmus, who became the most celebrated author, editor, critical scholar, and lecturer on the New Testament. His edition of the New Testament in Greek and his work on the Greek language were of untold value to the 16th-century translators of the Bible.

Influence of the Renaissance on schools. The principal effect that the Renaissance had upon schools was to establish the ancient Latin and Greek languages and literatures as the principal subjects of study in secondary and higher schools of western Europe. Quintilian was the author most widely consulted and quoted on education, and the school of the grammaticus was the model on which Renaissance educators organized their schools. The declaration of Guarino of Verona that "no man who lacks Greek can be called educated" is indicative of the trend at that time.

Renaissance scholars were interested in Greek and Latin antiquity, since it reflected human achievements, and thus furnished guidance for secular rulers. The classics, moreover, because they dealt with human problems and creations, were referred to as the *humanities;* and the scholars devoted to them, as indicated in the preceding section, came to be called *Humanists*.

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CHAPTER II

THE NORDIC REVOLT AND RECONSTRUCTION

1. General Causes of the Revolution

The revolution of the 16th century, usually termed the *Reformation,* was the most far-reaching, many-sided, and profound awakening in the history of the western world. To think of the Reformation merely as a reform of church organization or religious doctrine, important as these were, is to misinterpret its deeper significance for human progress; no aspect of man's personality was untouched by it. The Reformation involved political, economic, religious, moral, philosophical, literary, and institutional changes of the most sweeping character; it was, in fact, a Nordic revolt and reconstruction.

For almost a thousand years the Teutonic races had been trained in the institutionalism, and subjected to the domination, of the Roman world. They had received their religious practices, their culture and their books, the very language of their learning, their laws—in fact, all the conventionalities of civilization—from the south. Whatever indigenous contributions may have sprung from their own soil had been transformed and consecrated by an ever-watchful mother church. There were now, however, not a few evidences that this period of tutelage was drawing to an end.

Endued with unusual vigor of body, these northern peoples united therewith a commensurate alertness and vigor of mind, and a growing sense of individual worth. They found in the free spirit of the Renaissance the stimulus they needed to develop and grow. Thrilling inventions and amazing discoveries added much to life and, at the same time, imparted to these peoples a new sense of power and control.

Everywhere in western Europe, changes of a momentous order were impending. The question was: Just what direction would evolution take? and where and how far would the readjustment go?

Discovery and invention. That the busy mind of man was preparing for a vast renovation of ideas and institutions is evidenced by the startling discoveries and inventions which distinguished the period just prior to the 16th century. Successive explorers had pushed back the limits of the geographical environment, and enormously increased man's knowledge of the world. Columbus discovered the new hemisphere, and Magellan circumnavigated the globe. Not only did man suddenly realize that many of his cherished concepts were discredited and false; but, what was even more important, he experienced the awakening of his imagination and the challenging of his powers to highest achievement. He began to suspect that his information concerning other spheres of knowledge, with their presuppositions, prejudices, and dogmatic assumptions, might be equally erroneous. The shell of medievalism, which had long enclosed and encumbered the human mind, was cracking; soon it was to be completely shattered, and a modern civilization was subsequently to emerge.

Of greatest importance for human progress were the process of making paper, discovered in the 13th century, and the invention of movable type, by Gutenberg in Mainz in 1438. For centuries, vellum and parchment had been used for records, but these materials were very expensive, and the supply was uncertain. Paper made from rags was cheaper, and it was also fairly easy to secure. The invention of printing vastly increased the supply of books and pamphlets, and greatly assisted, not only in bringing about a profound mental awakening, but also in imparting a powerful desire for culture. Soon presses were set up in France, Italy, Spain, and England. Germany and Switzerland, however, were the most active centers of publication. Mainz had five printing establishments; Ulm, six; Basle, sixteen; Augsburg, twenty; Cologne, twenty-one; and Nuremberg, twenty-five. In Italy and France, publishers were interested especially in printing the works of ancient classical authors; in Germany, books of piety and the Scriptures were the chief works issued from the press.

The most revolutionizing discovery of the age was still to be made. About the middle of the 16th century, Copernicus gave to the world his astounding theory of heliocentricity, the doctrine that the earth revolves about the sun and is not the center of the universe. The human mind had never been confronted with an idea more incredible or subversive. The effects of this theory in discrediting conceptions of the past cannot be overemphasized. But as Mr. J. A. Symonds has well said: [1]

> It is not necessary to add anything to the plain statement; for, in contact with facts of such momentous import, to avoid what seems like commonplace reflection would be difficult.

The same year in which Copernicus finally published his revolutionizing theory, 1543, also brought forth another work of far-reaching importance. This was *On the Structure of the Human Body*, by Andreas Vesalius (1514–1564), an anatomist born and educated in the Netherlands. Two years after the publication of these significant works, Jerome Cardan, an Italian professor of mathematics, published the first scientific work on algebra, which he entitled *The Great Art*. This book helped to bring about the synthesis of mathematical knowledge and astronomy that was to produce most profound changes in human thinking.

Protestants and Catholics alike opposed all such scientific development and enlightenment; the one attacked and ridiculed them, the other placed these works on the index. In the end, however, Protestant theology suffered less than Catholic doctrine, which was directly based on medieval cosmology.

Ethics, law, and government. Human relationships have, from earliest times, formed the chief subject of man's reflection and education. In this general field are found the study of ethics, or morals, and of law and government, and in each of these important changes were taking place which affected the fundamental basis of the schools of Europe during this era.

The moral sensibilities of western Europe reached their lowest ebb during the period of the Renaissance in Italy. A reaction was soon to follow in the Reformation in the north. So far as the formal study of ethics was concerned, Aristotle's work was taught in the universities and accepted everywhere as authority. Luther rejected this work because, he claimed, it represented a pagan view of life, and was not in accord with the Christian ideals set forth in the Scriptures. Little or no change was made, however, in the study of the subject in the universities.

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[1] Symonds, J. A., *The Renaissance in Italy; The Revival of Learning*, p. 15. Henry Holt & Company, New York, 1883.

In connection with law, highly significant developments took place. During the Middle Ages, two distinct systems of law were in vogue: the civil law of the secular states; and the canon, or ecclesiastical, law of the church. The two not only overlapped but were actually in conflict in many ways. It will be recalled that the church exercised temporal authority over large portions of Europe. Within these territories, canon law was the accepted law for civilians as well as for the clergy. In all the secular states, priests and other members of religious orders were subject only to canon law and, consequently, could not be tried in the civil courts. Moreover, in many cases, even laymen elected to be tried by ecclesiastical courts, in order thus to evade the severer penalties of the civil courts. At first both civil and canon law were studied by the clergy, but in 1254 Pope Innocent IV prohibited the clergy from teaching the civil law. As a consequence of this measure, civilians became masters of common law and of the civil statutes, and the two types of law grew further and further apart. Civilian lawyers became powerful and were frequently aligned with the state in opposing clerical claims.

In theory, civil law applied to crimes, and canon law, to sins; in the eyes of the church, however, all crimes were likewise sins and could, accordingly, be judged by the church courts. Canon law became a powerful instrument in the hands of the unscrupulous. It was employed frequently to advance the policies and interests of the church, to favor the priesthood, and to collect funds from the ignorant masses.

Civil law, also, was often administered in a tyrannical fashion to further the interests of the ruling class. By its means the common people were cheated and oppressed. At the beginning of the 16th century, lawyers were greatly disliked because of their sharp and oppressive practices. The recovery of the Justinian Code, and its substitution for canon law during the Reformation period, constituted one of the most momentous changes in an era of striking revolutions. In England, where both forms of jurisdiction were decidedly oppressive, Henry VIII established at the universities professorships of Roman law, and forbade the teaching of canon law. The same changes occurred in the German institutions. Such modifications deprived the church of all jurisdiction over civil issues in Protestant lands, and subjected priests and members of religious orders everywhere to the civil courts. Finally only a few matters of a purely religious nature were left to be adjudicated by the church.

Civilization thus took one of its longest strides, for it now safeguarded the individual against oppression from the priesthood, and made for freedom and order in human relationships. The Nordic revolt resulted in the establishment of secular government as the supreme power in every Protestant country and made all courts subject to civil control. The suppression of canon law effected the transition from an ecclesiastical, or clerical, to a civilian civilization. The translation of the law into vernacular languages was a powerful influence for emphasis on the rights and dignity of the common individual. By this means the sense of individual worth and the importance of personality were deepened.

This period was marked by further significant developments in civil government and its relation to schools. For the first time in centuries, new theories of government were elaborated and put into operation. Previously, national concerns had been subordinate to ecclesiastical interests; although the church and the empire did not always live in harmonious relationship, no one seriously called in question their vital connection or the preëminence of the papal hierarchy. The church was centuries old when national governments arose, and emperors and kings acknowledged the overlordship of the papacy and were eager to be crowned by the Pope at Rome. Under this medieval form of organization of the church and state, education was purely a function of the church.

In his break with papal authority, Luther found it advisable to subject the church to the secular powers. As a consequence, in Protestant Germany each state obtained control over the church within its boundaries, and the individual man was obliged to assume the religious doctrine and confession of his sovereign. *Cujus regio, ejus religio (Whose territory, his religion)* was the Latin formula which expressed this new policy. Under Luther's plan, the church became one of the agencies of the civil government, which, in turn, supported and controlled it. Pastors were virtually civil servants. At birth every infant became at once a member of the church and a subject of the state. Education, which had always been a function of the church, now likewise came under the control of the secular power.

John Calvin, the reformer from Geneva, had the opportunity, as no other man had had, to make the relation of the church and state conform to a unitary point of view. He was one of the first to formulate a theory of government which he based upon the theocracy of the ancient Hebrews. According to his view, church and state have the same objective—namely, to carry out the Will of God. They have, however, different but complementary functions. They operate as two organs which form a unitary organism. The church interprets the Will of God and also sets the moral standard, and the state endeavors to realize both in the conduct of the members of the community. This point of view was adopted by the Huguenots in France, the Reformed Church people in Holland, the Presbyterians in Scotland, and the Puritans in England. The school according to the Calvinistic theory is the offspring of both church and state. This conception dominated education in the American colonies and wherever Calvinists held sway.

In addition to the ancient Catholic, the Lutheran, and the Calvinistic views, a fourth main position was held by the Anabaptists of central Europe. Scattered in diverse societies or groups, they united in an intense opposition to any and every form of union of church and state. They declined to bear arms, to pay taxes for war, to act in civil office, to swear by oath, and to go to law. They also refused to persecute anyone for his religious beliefs. These peoples advanced the cause of religious freedom, and later played an important part in bringing about the complete separation of church and state in America. This step led in turn to the secularization of the public school system in the United States.

Social and institutional conditions and changes. The opening of the 16th century marked the termination of one social era and the beginning of another. Never has so short a space of time witnessed such rapid and extensive social and institutional changes. Many institutions and customs, hoary with the age of centuries, ceased entirely; and all the others were altered more or less completely. Since the most profound ideas and aspirations of human personality were affected, institutions and habits of life had to be readjusted in harmony.

Up to this time, medieval thought had divided the world into two grand divisions: the spiritual and the temporal, the sacred and the secular, the realm of grace and the realm of nature. Human individuals belonged either to the religious or to the secular division, the one being looked upon as a more holy condition than the other. In each division a number of strata, or classes—tier upon tier and rather sharply marked off from each other—formed human society. At the top were the nobility: the Pope and the princes of the church, in the one order; the rulers and the secular princes, in the other. The religious classes ranged from prelates, bishops, and abbots to parish priests and ordinary monks. The laity likewise ranked from the imperial family, electoral princes, minor nobility, knights, and citizens of the free cities to the peasants and the serfs.

Society had been organized into various institutions in and through which the individual lived his life. As yet, it must be remembered, the idea of ethical personality and of individual rights and property was by no means so sharply accentuated as at the present time.

Medieval institutionalism, which had evolved from ecclesiastical and feudal practices, was no longer adequate to express the new ideas and aspirations of the Nordic peoples. Individual personality demanded freedom and recognition. The cities and towns were the seed plots of this new growth.

Before turning to the evolution of the towns, however, it is necessary first to discuss the passing of some of the older institutions.

The passing of knighthood. The knightly class formed a highly active and, on the whole, a rather important element of medieval society. The free knights within the empire owed allegiance directly to the emperor, and formed a fighting force which could be readily mobilized for the incessant wars of the period. They nursed a special grievance against the free cities, the growth of which appeared to them as a degeneration from the "good old times," the golden age of chivalry. The knights generally became free lances, attaching themselves as occasion offered to any cause; they plundered the peasantry of their produce, and took toll of commerce as it moved along the highways of trade.

The invention of gunpowder was the chief cause of the passing of knight errantry. The arrogant knight in coat of mail was no match for even the despised peasant when armed with a shotgun; his moated castle was no longer a defense when his enemy could employ a cannon to batter down his stronghold. Thus the knight witnessed the passing of his order, even as a ready fighting force. Armed with guns, the common soldiers when organized into infantry were much more effective.

During the Reformation period, men like Götz von Berlichingen and Franz von Sickingen endeavored to arrest the decline of the knightly order. But all their efforts were vain; the whole feudal order was passing, and a new social structure was taking its place.

Monasteries. This is another of the important institutions of the Middle Ages which was doomed to extinction so far at least as the Protestant world was concerned. Beginning in the 4th century, monasticism did not reach its climax until the 9th. By that time it had made its most vital contribution to western civilization; and as the later centuries passed, it became less and less a true expression of the aspirations of men.

The enormous wealth of the monasteries, as well as the livelihood they provided, still attracted many aspirants. The destruction of these institutions at the time of the Reformation created a great disturbance in society, especially because it affected large numbers of children who would otherwise have entered those institutions for their education and livelihood. This disturbing condition involved all of the northern portion of Europe where the monasteries were overthrown and their property and wealth seized by secular princes or barons.

Ecclesiastical estates and the priestly class. As mentioned previously, the church had large territories over which its beneficiaries were appointed or elected rulers. These ecclesiastical principalities were now abolished in Protestant countries, and became secular states. Similarly, the great foundations by which numerous priests were supported passed into other hands. The entire order of the priesthood, from the parish priests to the bishops, cardinals, and other dignitaries, was overthrown.

Mendicancy and charity. "Go sell all that thou hast and give to the poor, and thou shalt have treasure in heaven," was an injunction which received a much more literal interpretation by medieval Christianity than it does today. Charity was a means of grace most highly exalted by the church; the high esteem in which it was held gave rise to mendicant orders, but it likewise so encouraged general begging that Europe was overrun with, and impoverished by, beggars of all kinds. Relief from mendicancy became a pressing economic problem in all countries. Among the reforms demanded by Luther in 1520 was "the urgent necessity of abolishing all begging in Christendom." Moreover, he placed the church, the school, and poor relief together under civil rather than ecclesiastical authority.

It was the people of the Netherlands, however, who first reached a practical scheme for the relief of the poor and the suppression of mendicancy. They saw the true relation of poverty to education: that it is cheaper to prevent pauperism by means of the school than to support it by charity. In 1525 the Council of Ypres formulated with perfect clarity the fundamental principles of public assistance. The council centralized in a common treasury the revenues for all local charitable institutions. Public begging was forbidden. A committee collected all alms, held regular weekly conferences, and visited the poor in their homes. The council finally stipulated that the children assisted should be either sent to school or placed in apprenticeship. In 1531 a law was made extending the most important features of this system to all the towns and villages of the Netherlands. Municipalities were required to open schools in which poor children could be taught to care for themselves, and trained for some manual vocation or for domestic service. The subject of poor relief found its most representative discussion in the work of the great educational reformer Juan Luis Vives, *On the Support* *of the Poor (De Subventione Pauperum)*, published at Bruges in 1526. This book was widely read throughout northern Europe and exerted a powerful influence. It seems clear, moreover, that the practice of poor relief in the Netherlands influenced the Puritans in New England a century later.

Free towns as centers of progress. The early free towns of northern Europe must be looked upon as the true nurseries of progress; they were, furthermore, the chief factor in the creation of popular schools. The first of these towns grew up where the conditions afforded a sheltered harbor either on the sea or on a navigable river. Following the Crusades, manufacturing and commerce greatly increased the population in these ports. Among the important towns in northern Europe which grew up in this way were the following seaports: Bruges, Antwerp, and Ghent, in the Netherlands; and Hamburg and Lübeck, in Germany. On the navigable rivers were Paris, London, Cologne, Mainz, and Strassburg.

The cities of the Netherlands throbbed with aggressive energy and became models for other towns to emulate. With their manufacturing and trade, these cities rapidly amassed great wealth and far outstripped other places. A virtual monopoly of woolen, silk, and linen manufacturing belonged to their weaving guilds. Their tapestries, brocades, and cloths of all kinds became famous everywhere. Porcelain, iron, steel, agricultural products, furs, and fish formed industrial sources of increasing wealth. Moreover, the extraordinary manual skill of these peoples, combined with a genius for invention, produced many new articles which were soon to become the common essentials of civilization.

The population of these cities was sober, intelligent, industrious, and thrifty—the type that creates and conserves wealth and makes for progress. About the beginning of the 16th century there were in the Netherlands approximately 3,500,000 persons, about the same number as in England; but in wealth, technical skill, and culture, the Netherlands were much in advance of neighboring lands. Concerning their social and industrial condition, we are reliably informed:[2]

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[2] Griffis, William E., *The Influence of the Netherlands in the Making of the English Commonwealth and the American Republic*, pp. 4–5. Boston, DeWolfe, Fiske & Co., 1891.

> In the sixteenth century, the common people of the Netherlands, owing to their great mechanical, agricultural, and nautical skill, their intelligence and their diversified industries, were the best fed, the best clothed, the best educated, and the most religious in the world.

The primary cause for this extraordinary prosperity must unquestionably be sought in the large measure of liberty and autonomy which was enjoyed by these towns. An indomitable spirit of individualism formed the innate character of their inhabitants. Following the example of the progressive Italian cities, these towns had early broken away from the exacting rule of their overlords, and obtained important rights and privileges. Their security, independence, and power were greatly enhanced by the formation of the Hanseatic League, organized to protect commerce against pirates on the sea, and marauding barons and knights on the land.

Some of the provinces had never submitted to any oppressor, for special circumstances had favored the growth of an independent spirit. First, it will be noted that monastic life and ecclesiastical organization had never become so dominant in the Netherlands as in neighboring territories. Again, by virtue of knowledge and skillful seamanship, these peoples had never been subjected to the same degree of feudal servitude that had blighted the early development of civilization elsewhere. Furthermore, rights and privileges which could not be otherwise obtained were often readily obtainable for gold. Thus, liberty provided a favorable environment for the expression of the creative powers and intelligence of these peoples.

Growth of culture. The restless energies of these centers of the crafts and trades soon turned attention to the higher arts. Not only was there closest intercourse with the Italian cities, where culture was revived to the highest degree, but also large numbers of Italian artisans and men of culture settled in the cities of the Netherlands. During the 14th and 15th centuries the peoples of these lands developed architecture, goldsmithing, weaving of artistic tapestries, wood carving, and other fine arts. If the earliest—that is, the first so far as Europe is concerned—printing from movable type did not take place in the Netherlands, as some have claimed, at least the use of wooden blocks which led to printing was first practiced there. Moreover, printing found its most favorable quarters and highest development in these centers.

Other arts involving similar manual skills were practiced. Of supreme significance was the sudden and surprising development of painting and music in Flanders and Holland. The Flemish led the world in musical creation. Their painters rivaled those of Italy at its best. The Flemish school of painting was founded by Jan van Eyck (*c.* 1385–1441). He was the first artist to use oil in painting. It has been said that his "imitation of reality has never been surpassed." To the same school belong, at a later period, the great Rubens (1577–1640) and Van Dyck (1599–1641). The Dutch school also furnished such remarkable figures as Lucas van Leyden (1494–1533), Frans Hals (1581–1666), and Rembrandt (1606–1669).

It would indeed seem strange if this high degree of achievement in arts and crafts could be attained unaccompanied by an advancement in learning. While monasteries and churches were not altogether absent, they did not monopolize life as they did in less progressive centers. Hence these people, free from such dominating influences, turned their energies into new channels. Commerce, the trades and crafts, and even self-government, necessitated the diffusion of writing, reading, and calculation. The towns consequently radiated culture in all directions. If one were to draw a map representing the spreading of the new culture and arts, the mouth of the Rhine would be the center from which it was carried to all points of the compass.

The condition of the peasants. Everywhere outside the cities and towns during the later Middle Ages, the lot of the peasantry had grown deplorably harder. This was especially the case in Germany, England, and France. The common man was oppressed by overlords and plundered by knightly marauders; and because of dense ignorance and gross superstition, he fell an easy prey to extortions of the priesthood.

In central Europe, local revolts frequently took place, but since the peasants, were unaccustomed to unity of action and lacked leadership, their uprisings were quickly suppressed. The romantic success of the Swiss peasantry in defeating their tyrannical oppressors instilled fresh hope in the hearts of the German peasants. Here and there arose zealous but ignorant preachers who aroused a burning desire for social justice. Moreover, the spread of a knowledge of the Scriptures led to a general belief that the millennium was close at hand and that universal Christian brotherhood and goodwill would shortly ensue. Some even looked for the coming of a Messianic deliverer to rescue them from oppression. Luther's doctrine of individual Christian liberty also greatly exalted their hopes.

In consequence of these provocative conditions, the long-smouldering fire broke into conflagration in the Peasants' War of 1524–1525. An alliance among the nobility quickly put an end to the revolt. As a result of the struggle the lot of the peasants in Germany became even worse than it had been. They sank to a condition of virtual serfdom, and their emancipation was delayed at least two centuries.

The political factor in the Protestant revolution. In large measure the Nordic revolution came about because of oppressive political and economic conditions. From the time when civilization began in northern lands, three main factors led the way and tended to unify the scattered social elements which constituted, at first, the tribal and, later, the feudal systems.

(1) First of all was the papal church, which had long exercised universal sway in all matters of religion and culture. But not only in the spiritual sphere did the church govern; as the centuries passed, in accordance with its unswerving policy the papacy had enormously increased the areas over which it exercised temporal sovereignty. Furthermore, as previously mentioned, the church had extended its jurisdiction over the civil and personal affairs of every individual.

(2) Secondly, in the political sphere the Holy Roman Empire constituted the most extensive sovereignty in existence. For a time it was all-powerful; but as centuries passed, the real power of the imperial throne gradually diminished until practically only a shadow of its former authority remained. Nevertheless it continued to influence civilization in many ways.

(3) The third factor in the political evolution of this period was the process by which the feudal system concentrated more and more power in the hands of the princely houses. By

inheritance, intermarriage, warfare, and other means the numerous petty estates had been combined into a comparatively small number of principalities, and, by combining these, the kingdoms of western Europe were gradually formed.

Owing to the greater extent of territory involved and the stabilizing power of the imperial throne, this process of political integration had not gone so far in Germany as it had in France, England, and the Scandinavian lands. At the beginning of the 16th century, the Teutonic people were still divided into more than a hundred petty dukedoms, principalities, and electoral states, each asserting more or less independence and self-determination within the limits of imperial sovereignty. Scattered among these hereditary holdings were over one hundred free imperial cities, which jealously guarded their rights and exerted a strong influence in all political and economic affairs. Furthermore, a large number of ecclesiastical states existed alongside the domains of the secular princes. At the time of the Reformation, more than one-fourth of the total area of Germany had come under the temporal sovereignty of the church. These ecclesiastical states were ruled by the princes of the church, who were either elected or appointed to their positions and who ranked in power with the hereditary nobility. As a consequence of the distribution of power, throughout the Continent successive popes, cardinals, emperors, electoral princes, ecclesiastical princes, and the various orders of lesser nobility engaged in interminable intrigues, alliances, rivalries, and armed conflicts, in which each struggled to wrest greater power, wealth, and territory for himself.

These political developments paved the way for the great northern revolt. The Church of Rome had come to be looked upon not only as a tyrannical, but, what was worse in the eyes of the people, as a foreign power. Yet, had it not been for the protection and active sympathy which some of the electoral princes, the free cities, and the minor nobility extended to Luther, he would probably have fared no better than other noted heretics before him: he would have been burned at the stake, and his doctrines stamped out.

Similar causes paved the way for revolt in other countries. Because of conditions in England, Henry VIII was able to overthrow the Roman Church largely by his own power. In

Scotland, John Knox was successful in his reform movement because of the support of the barons. In Scandinavia, it was the reigning sovereigns who put down Catholicism and accepted the Lutheran faith. In Switzerland and the Netherlands, the people themselves were more actively concerned in the revolt, but even in these lands the revolution was a political as well as a spiritual upheaval. Everywhere the civil powers became active in destroying the monasteries, in abolishing the temporal sovereignty of the Roman Curia, and in suppressing canon law and the ecclesiastical courts.

Economic revolt. Economic dissatisfaction played a decisive part in the revolution. Gradually through the centuries, wealth had been accumulating into the control of the churches, the numerous monasteries, and other ecclesiastical foundations. The conditions that caused this concentration of wealth were, in large measure, peculiar to the social and religious life of the age. The doctrines that salvation is due to charitable works, that absolution for sins can be purchased, and that purgatory can be shortened by endowing a living for a priest to celebrate mass, were some of the most effective causes. Thus, gifts, endowments, indulgence money, and numerous forms of tithe had increased the treasuries of the churches, the monasteries, and other institutions, until, it has been estimated, two-thirds of the entire wealth of Germany had passed into the hands of these ecclesiastical foundations. Added to this was the yearly economic drain that went directly to the papal court at Rome. As Beard says, Germany was "the milch cow of the Papacy, which it at once despised and drained dry." [3]

Similar, or even worse, conditions were to be found elsewhere. In Scandinavian lands, it is calculated that two-thirds of Sweden was in the hands of the church, and the remaining one-third belonged almost entirely to the secular nobility. This state of affairs largely explains the rapid conquest of Sweden by Lutheranism. In the Netherlands, as in other parts of Europe, the Church of Rome held vast estates amounting, it has been estimated, to one-fifth of the entire property of the country.

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[3] Beard, Charles, *Martin Luther and the Reformation in Germany,* p. 33. London, K. Paul, Trench & Co., 1889.

There arose everywhere in these northern lands an irresistible patriotic response to the outcry of the reformers against the exactions of the church, which had come to be looked upon as a foreign and malevolent power. Financial corruption, and crass materialism abounded. Much of the funds received from the people of northern Europe went directly to Rome to increase the glory of the papal court, and to aid in oppressing the very people from whom they had been obtained.

The economic situation was aggravated because, a short time before, money had been introduced to replace bartering, a change which added greatly to the increasing cost of living. Moreover, interest rates were so high that they amounted to usury. These desperate economic conditions, together with the widespread moral degeneracy of the day, aroused the righteous disgust and wrath of the northern races.

2. The Religious and Ecclesiastical Revolt

Pre-Reformation reformers. The religious aspect of the revolution was by no means a sudden or unexpected outburst. Following in the wake of the Crusades, or as early as the 11th century, not a few raised their voices in protest against the growing domination of the papal hierarchy, the increasing corruption within and without the church, and the corresponding laxity of spiritual life. The people who thus refused to conform to the doctrines and religious practices of Rome for some time formed only loosely organized groups. They were generally treated as heretics and subjected to persecution by Roman Catholic authorities. From century to century the number of their adherents grew, until they finally developed into many sects, with different names according to the part of Europe in which they lived. In Italy and elsewhere were the Cathari (the pure); and the Arnoldists, followers of Arnold of Brescia. In France were the Petrobrusians, named after Peter of Bruys; and the Albigenses. In Lombardy were the Waldenses, so called after Peter Waldo. In Germany and the Netherlands were the Beghards, who begged bread on the streets for the poor. In England were the Lollards and the Wycliffites; and in Bohemia, the Hussites and the Taborites.

Little, if any, unity existed among these sects, although a number of them on the Continent used the same catechism. They all, however, vigorously opposed the evils which tainted the papal church, and on occasion their protests flamed out with fanatical zeal. Persecution, torture, and even martyrdom tended only to inflame rather than to diminish or allay the bitterness of their opposition to the Roman Catholic hierarchy.

The dissatisfaction was not confined to those holding doctrines accounted heretical; it was shared by large numbers who would not align themselves with any schismatic party, but remained within the fold of the mother church.

In the region of the Rhine there appeared during the 14th century the semi-monastic order known as the *Brethren of the Common Life,* founded by Gerard Groote. The Brethren were men of the most admirable piety. Beard, in writing of them, says:[4]

> All these men, though not willing to be accounted heretics, stand on the verge of heresy. They asserted the sole authority of the Scriptures in the matters of faith. They attacked indulgences from both the doctrinal and practical sides. Wessell preached a doctrine of justification by faith, though always faith that worked by love.

One of their number advocated the use of hymns and prayers in the vernacular tongue—a reform that prepared the way for an understanding piety and, incidentally, a new intellectual awakening. It was this group, also, which introduced the humanistic movement into northern Europe. An account of their educational activities is given later in this chapter.

The evils against which all these sects complained were not unrecognized by the church itself. Numerous efforts were made, by ecclesiastical councils and by high authorities, to effect reform. However, the degeneracy was too firmly entrenched to yield to half measures. Only a cataclysmic change that would engulf the entire civilization, destroy outgrown institutions, and reorganize European life in harmony with new ideals could bring about success. Such a transformation was at hand.

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[4] *Ibid.,* p. 48.

Religious excitability. At the beginning of the 16th century the people of the Continent—especially in Germany—were in a psychological state of great religious excitability. Though generally held in control, this condition was ready, at the appropriate stimulus, to burst forth into universal delirium. For decades, pilgrimages, usually of adults but sometimes of children, had been made to distant shrines. Fear, especially the dread of a Turkish invasion, played a large part in determining the popular state of mind. Disease, famine, and superstition added to the general hysteria of the age. Expectation of some great, impending religious phenomenon was widely prevalent; here and there fanatical preachers, appealing to the people, caused deep emotional awakenings. Meanwhile, the general attitude of the masses toward the priests was that of intense hatred, which grew out of a sense of distrust and betrayal.

Reading of the Scriptures and religious literature. Undoubtedly, printing was the most powerful assistant to the religious reformers, and the chief means of intellectual awakening. It is significant that the Latin Bible, known generally as the *Vulgate,* was the first complete book issued from the press. Four years were required to accomplish the task of printing it—an undertaking completed in 1456. Before the year 1500, no less than 92 editions of this Latin version were published, while during the following century the astounding number of 438 editions came from the presses of Europe.

> Between the years 1457 and 1517 . . . it is computed that over four hundred different editions of the Bible, or parts of it, had been printed in France.[5]

Of greater importance, however, was the publication of the Scriptures in the vernacular tongues of Germany, France, Italy, Bohemia, and the Netherlands. In the Netherlands, as early as 1477 the Bible had been translated into the vernacular, and there were no other peoples so saturated with Scriptural knowledge. Prior to 1518, no less than 14 editions were printed in High-German dialects, and at least three in Low-German. Between 1513 and 1531, as many as 25 translations of the Bible or the New Testament appeared in Dutch, Flemish, and French. Nor was this the whole story: many portions of the Scriptures were published separately. Before 1509 there had appeared 22 editions of the Psalter; and 25 editions of the Gospels and the Epistles, before 1518. A large number of books of devotion also figured among the publications at this time. The leading centers of publication were: Strassburg, Augsburg, Nuremberg, Wittenberg, Basle, Paris, and Venice.[6]

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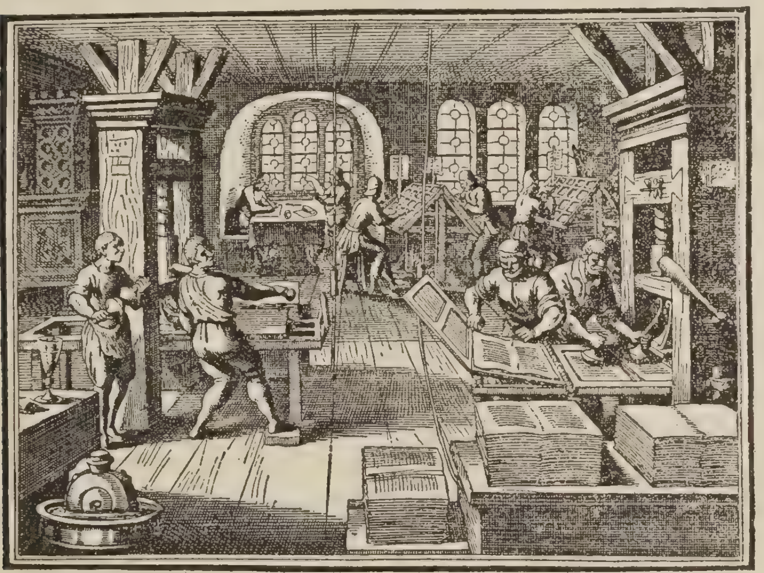
[5] Barnard, H. C., *The French Tradition in Education,* p. 74. Cambridge (England), Cambridge University Press, 1922.



Interior of a Sixteenth-Century Printing Establishment.

The Bible printed in English. Tyndale (*c.* 1492–1536) brought from the press in 1526 the first edition of the New Testament to be printed in English. Other editions of the New Testament followed, as did imprints of the Pentateuch and various parts of the Old Testament. Because Tyndale's version was issued under Lutheran auspices but without license from any civil or ecclesiastical authority in England, the reading, as well as the sale, of the New Testament was prohibited in the realm. Copies were, however, smuggled in and read widely. Tyndale's version, an excellent one, served as a basis of later translations, including the well-known version authorized by James I and published in 1611. Within fifteen years of the time Tyndale's translations went to press, various editions of the entire Bible were issued, some of which received royal license, and one of which was prepared by express command of the king. These translations were, in the main, excellent, and they played no small part in fixing the standard of English prose.

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[6] Beard, Charles, *op. cit.*, p. 143.

The veneration in which Christians held the Scriptures induced ministers and civil authorities to encourage the establishment of schools in which children might learn to read, so that everyone might know the Bible for himself. The influence of the Bible was far-reaching; it was read by persons of every rank in society, and its words and ideas became the common possession and spiritual standard of the people generally. The facts about the early publication of the Scriptures point to the universal interest in the reading of the Bible at that time. Lindsay declares: [7]

> The "common man," especially the artisan of the towns, knew a great deal about the Bible. It was the one book he read, re-read and pondered over.

In his *Short History of the English People,* Green writes: [8]

> England became the people of a book and that book was the Bible. It was as yet the one English book which was familiar to every Englishman; it was read at churches and read at home, and everywhere its words, as they fell on ears which custom had not deadened, kindled a startling enthusiasm. . . . The popularity of the Bible was owing to other causes besides that of religion. . . . Sunday after Sunday, day after day, the crowds that gathered round Bonner's Bible in the nave of St. Paul's, or the family group that hung on the words of the Geneva Bible in the devotional exercises at home, were leavened with a new literature.

Next in importance to the Scriptures must be placed the profound influence of St. Augustine, the Church Father of the

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[7] Lindsay Thomas M., *A History of the Reformation,* Vol. II, p. 439. New York, Charles Scribner's Sons, 1906–1907.

[8] Green, J. R., *Short History of the English People,* pp. 460–461. New York, American Book Company, 1916.

5th century. He was one of the chief founders of the Roman Church and, more than any other man, the one who formulated the doctrines of Christianity for the western world. His doctrines exerted a powerful influence upon the Brethren of the Common Life, a still greater influence upon Luther and Calvin, and were later reproduced as the foundation of the work of the Port Royalists in France. Whenever and wherever the works of St. Augustine were studied, there began a movement for a deepening piety and a reform of education.

> Between the year 1467 and the end of the fifteenth century, no fewer than twenty editions were called for, that is to say, a fresh edition every eighteen months.[9]

Another of the great devotional religious works of this age—held by some to be, next to the Scriptures themselves, the most widely used religious work—was *The Imitation of Christ (De Imitatione Christi)*. Over 2,000 editions of this work issued from the press.

Doctrines. Many of the most profound doctrines of the Christian faith were involved in the controversies of the Protestant Reformation. Among the chief issues were: the doctrine of salvation, the worship of images, and the ultimate authority in religion. The Roman Church taught the doctrine of salvation by good works; Luther and other Protestants believed salvation came by faith and the Grace of God in Christ. The Roman Church, contending that the final authority was the Roman Curia, based its doctrines upon the Scriptures as interpreted by the Pope and the rulings of the church councils. Luther and Calvin lodged ultimate authority in the literal word of the Scriptures; the Anabaptists held that the ultimate authority was the New Testament, together with the Christian conscience illumined by the Holy Spirit through the new birth. The Roman Church claimed that the priest was the mediator between God and man, and held the power to pardon sins. The Protestants contended that the only mediator was Christ himself and that every man had direct and immediate access to God. The Lord's Supper and the granting of indulgences were further subjects of profound and prolonged, as well as bitter, controversy. All of these raging controversies helped to intensify the widening breach in the church, and they finally determined the Nordic world to form a new civilization.

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[9] Schaff, Philip, *A Select Library of the Nicene and Post-Nicene Fathers of the Christian Church,* Vol. II. Translator's Preface by Rev. Marcus Dods, p. xiii. New York, Charles Scribner's Sons, 1907.

3. The Renaissance and Humanism North of the Alps

As previously indicated, the Renaissance began in Italy among the aristocracy of church and state. The period, running the usual course of great human interests, passed through three stages. The beginning was the stage of passionate enthusiasm for ancient Latin and Greek literature and of desire for artistic creation. During the second stage, Italian scholars engaged in a systematic study of the ancient world and its languages and literature. The final stage was that of formalism: the worship of Cicero, the effort to reproduce his exact form of expression, a straining after pure Latin as he used it. Unfortunately for northern culture, it was Humanism, in this third stage, which exerted the greatest influence upon the readjustment of the schools.

The introduction of the new learning into northern Europe must be credited directly to the Brethren of the Common Life. The first of these Brethren to teach classical Latin was John Wessel (1420–1489); and among his students was Rudolf Agricola (1443–1485), who became the apostle of Humanism in Germany. Wessel and Agricola were the first northern Humanists to study in Italy, the source of the new enthusiasm for pure Latin. A follower of Agricola, John Reuchlin (1455–1522) was the first to take up the study of Hebrew. As early as 1470 a professorship of Greek was established at the University of Paris; however, formidable antagonism from the traditionalists kept humanistic culture for a long time in the background at Paris. Not until Francis I (*r.* 1515–1547), through the influence of Budaeus (1468–1540), founded the College of France in 1530 with special chairs of Greek and Latin, did the promotion of humanistic culture meet with success at Paris.

Just as the 16th century was opening, Linacre, Grocyn, and Colet, building upon the foundation laid by William Gray and Duke Humphrey, established Humanism upon a firm basis in

England. In 1509 these men, with Erasmus, Elyot, and others, met at the house of Sir Thomas More to form the first English center of the humanistic movement. Infused with the historical spirit, the new learning was strongly opposed to Scholasticism. The universities were divided between the camps of the "Greeks," champions of the study of Greek, and the "Trojans," champions of medievalism.

It would be a great mistake to assume that the new learning was welcomed by all the scholars and authorities in charge of the schools and universities; on the contrary, a very bitter struggle ensued. The chief defenders of medieval Latin and scholastic theology were the powerful Dominican and Franciscan Orders, which were interested in controlling educational institutions. Strange to say, the final combat centered, not upon the teaching of pure Latin and the classical authors, but on the study of Hebrew. In Germany and the Netherlands, the antagonism came to a head in the struggle between John Reuchlin and Jacob Hochstraten, an inquisitor who proposed to destroy all Jewish literature. But behind these combatants ranged, respectively, the humanistic scholars and the leading conservatives of northern Europe. Hochstraten lost his case, and Humanism was triumphant.

Humanism and the Reformation. Humanistic culture had scarcely been introduced into the schools when the Reformation began; henceforth in northern Europe the two movements became closely associated, though not identical. They were like two great rivers which flow together but are never completely united; in the center of the stream they are individually indistinguishable, but on the sides each retains its identity virtually unchanged. No slight difficulty presents itself when one attempts to understand the varied relationships in which these two movements stood toward each other. They presented a unified attack upon a common enemy, and agreed generally upon the organization, aim, and curriculum of the schools. But in other respects they were quite antagonistic.

The relation of Humanism and the Reformation is so important that their points of difference and harmony may well be further surveyed. Among the most significant points of agreement were the following:

(1) Both Humanism and the Reformation opposed Scholasticism and the scholastic method. They agreed in their

contempt for the formalism and futility of Aristotelian logic, and for the degeneracy of monastic life.

(2) Both believed in the emancipation of the individual from the limitations of institutionalism, uniformity, and conventionality of conduct. Humanism tended to stimulate the expression of individuality in personality, in literary and artistic creation and appreciation, and even in intellectual activity. The Reformation cut more deeply and liberated the individual conscience from the bondage of traditionalism, externalism, and ritualistic formalism.

(3) Humanism and the Reformation were interested alike in the classical languages. To the one, Latin and Greek were the gateways to the ancient classical literatures of Rome and Greece, the most sublime treasures of human expression, thought, and knowledge. For the other, these same languages unlocked the treasures of the original Scriptures and the writings of the Fathers of the early Christian church.

(4) Classicism revealed a state of culture not only transcending that of the time, but also antedating the very existence of the church. Such learning tended to free the mind from bondage to the ecclesiastical ideas of the Middle Ages. Students read Aristotle in the original Greek and found that he actually contradicted what they had found in their roundabout translations from the Mohammedans. The religious reformers, on the other hand, found that the original church of the New Testament was quite different from the Roman Church that they knew.

(5) Humanism was, moreover, an aristocratic and monarchical movement; its literature dealing with the education and duties of secular princes and rulers is most extensive. While not essentially anti-clerical, the movement unquestionably contributed to extending the secular power at the expense of the church.

(6) By promoting Biblical scholarship, the new learning made its most important contribution to the Reformation. Dictionaries and grammars of the Hebrew, Greek, and Latin languages, as well as critical editions of the Scriptures, enabled Luther, Melanchthon, Tyndale, Coverdale, Calvin, and Beza to do their work. Erasmus desired, as had the Brethren of the Common Life before him, to place the Scriptures in the hands of every person.

But there were likewise great differences between the two movements:

(1) They were unlike in origin. Humanism began in Italy; the Reformation not merely was northern in origin, but it continued to be confined to Germanic lands and represented peculiarly the emergence of Nordic races into the forefront of civilization.

(2) Humanism was aristocratic or patrician, and was fostered especially by the rich, by the princes, and by men of great intellectual power and artistic sensibilities. The Reformation originated in the lower and middle strata of human society, and appealed more particularly to the masses and those evangelically inclined.

(3) Humanism was predominantly intellectual, aesthetic, and literary. The Reformation, on the other hand, was emotional and religious. The former emphasized human or worldly interests; the latter, the spiritual.

(4) So far as the schools were concerned, the two movements worked in harmony. Humanism largely dictated the aim of learned education, together with the general curriculum and the methods which were to be employed. Protestantism became the religion of the schools, furnished their spirit, and added to the curriculum catechetical instruction, the reading of the Scriptures, and Protestant church music. However, Protestantism was interested in popular education, while Humanism was not. A more detailed account of the new schools will be given after the following consideration of the effects of the revolution upon the schools.

Attacks upon Scholasticism and the schools. The attacks upon traditional culture assumed varied aspects. They included: (1) sarcasm for the barbarous Latin used by the monks and scholars; (2) contempt for scholastic doctrines and for Aristotle, whose works furnished the foundation of the system; (3) criticism of the monasteries and the methods of instruction employed in the universities and lower schools.

(1) *Medieval Latin ridiculed.* Erasmus, everywhere revered as the greatest scholar of the age and the master of pure Latin, attacked medieval culture in a biting satire, *The Praise of Folly (Moriae Encomium),* published in 1509. But even more effective was the work *Letters of Obscure Men (Epistolae Obscurorum Virorum),* written from 1515 to 1519.

In these letters—which, for bitter sarcasm and stinging wit, are unequalled in all literature—the monkish culture was held up to scorn and ridicule until it became a universal laughingstock. These letters were written by a small group of which Ulrich von Hutten, the brilliant knight and humanistic scholar, was the center. Satirizing the barbarities of medieval Latin and scholastic learning with their own crude terms, this untranslatable work caused all European students to jeer at medievalism. No work was more effective in making the monks and scholastics ashamed of their uncouth and barbarous learning.

(2) *Foundations of Scholasticism attacked.* The struggle against medievalism was without a full measure of success so long as the real stronghold remained intact; that bulwark was the logic and philosophy of Aristotle.. The history of Aristotelianism was, for more than three centuries, the story of human thought. Someone has suggested that God had created man, but that he had left it to Aristotle to make him rational.

During the first part of the Middle Ages, western scholars knew nothing of Aristotle's works except several chapters from his *Logic.* During the first half of the 13th century, translations of his treatises on ethics, physics, metaphysics, and other subjects were made, not from his original works but from the Arabic translations of the Nestorian Christians. At first the church was hostile and burned some of these treatises in public condemnation of their heresy. Later the attitude was completely reversed, and the Stagirite was exalted as the official philosopher of the Christian religion. He was the *Predecessor of Christ in the Realm of Nature, just as John the Baptist was in the Realm of Grace (Precursor Christi in rebus naturalibus, sicut Joannes Baptista in rebus gratuitis).*

Thus Aristotle became the infallible and authoritative source of all scientific truth, and his logic was the supreme method of thought. Upon his philosophy and logic the entire structure of scholastic theology and science was constructed. But, unfortunately, this foundation was itself all too fragile.

At the close of the 15th century, Theodore of Gaza and John of Trebizond—both ardent Peripatetics—translated a number of the works of Aristotle from the original Greek. It was soon discovered that this genuine Aristotle differed essentially from the Aristotle of the Schoolmen, especially upon points vital to Christian doctrine. In fact, the true Aristotle sharply contradicted not only the theology of the church but the new discoveries of science as well. Although Luther looked upon him as a "damnable heathen," yet he hesitated to reject all of his writings. Peter Ramus, however, graduating in 1536 from the University of Paris, defended as his thesis the proposition: "All that Aristotle has said is false." No proposition could have been more audacious, for every university of Europe, as well as the Roman Church, looked upon Aristotelianism as the repository of all truth in philosophy and science. A few years later, Ramus renewed his attack by two epoch-making works on logic: *Institutions of Dialectic* and *Animadversions on Aristotle.* The logic of Ramus was based upon actual experience and usage. It attained a widespread influence, and aided materially in bringing in the realistic era of the 17th century. The downfall of Aristotelianism carried with it the immediate decline of the scholastic method and doctrine.

(3) *Scholastic methods of instruction criticized.* The power of the Roman Church, scholastic theology, and the existing practices in the schools were all so closely bound together that one could not be destroyed without affecting another. The struggle against medieval methods of instruction and training was led by Luther, in Germany; Erasmus and Vives, in the Netherlands and England; and Rabelais and Ramus, in France. Luther most violently assailed the schools, the subjects which were taught, and the texts used. Oftentimes in criticizing the objects of his dislike, he was not overparticular as to nicety of language. He termed the schools "hells, purgatories where a boy was forever tormented with cases and tenses, and where he learned nothing, by reason of ceaseless flogging, trembling, woe and anguish." In the same spirit he continued: [10]

> Was it not a burning shame that formerly a boy must needs study twenty years or longer only to learn a jargon of bad Latin, and then to turn priest and say mass? And he, who finally arrived at this pinnacle of his hopes, was

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[10] Barnard, Henry, *German Teachers and Educators,* p. 149. Hartford, Brown & Gross, 1878.

> accounted happy. . . . But, for all this, he remained a poor illiterate man all his days, and was neither good to cluck nor to lay eggs. Such are the teachers and guides that we have had to put up with, who knew nothing themselves, and accordingly were unable to teach anything that was either good or true. Yea! they did not even know how to learn, any more than they did how to teach. And, why was this so? It was because there were no other books accessible, save the barbarous productions of the monks and sophists.

Luther's attack upon the Roman Church and upon the schools, together with his new doctrine of individual religious liberty, played a very large part in causing a sudden decline of the existing institutions in Germany. The collapse of the schools and the inner causes of their downfall will be considered later.

Vives, undoubtedly the most scientific student of education in that day, criticized the methods of instruction employed in the schools. He was the first to point out, from the standpoint of psychology, the function of sense impressions, and to insist upon inductive thinking as opposed to the memoriter and authoritarian teaching which was universally employed. He also opposed the use of disputation, the chief method of advanced training in university and secondary instruction. Of this he said: [11]

> When a boy is brought to school, on the very first day, immediately he is taught to wrangle, though as yet unable to talk. The same practice is followed in grammar, in the poets, in history, in dialectic and rhetoric, in every subject. Nothing is so clear that some bit of a question cannot be raised about it, and, even as a wind, be stirred into action. Beginners are accustomed never to be silent, lest at any time they should seem to have ceased speaking. At breakfast they wrangle; after breakfast they wrangle; at supper they wrangle; after supper they wrangle. At meals, at the bath, in the sweating room, in the temple, in the city, in the country, in public, in private, in every place, at every time, they are wrangling.

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[11] Watson, Foster, *Luis Vives,* pp. 18–19. Oxford University Press, 1922.

This method of disputation had many beneficial effects upon young scholars but had sadly degenerated into a contest of wits and bombast. Instead of leading the young to the love of truth and to more accurate methods of research, it had become so overemphasized that it was having precisely the opposite effect. Moreover, this exaggerated use of disputation was turning many against the university system.

Rabelais and the old education. Satire is frequently a more successful instrument in discrediting outworn forms and institutions than is serious censure. This means had been effectively used some years before by Erasmus in *The Praise of Folly,* and also by the Humanists who wrote *Letters of Obscure Men.* Rabelais, a French monk and physician, in a grotesque and ribald allegory made Frenchmen laugh at the old education. He portrayed a giant youth, Gargantua,[12] brought up according to the medieval custom. In the first place, he was taught by a wonderful master of Sophism, called Holofernes,

> ". . . who taught him his A. B. C.'s so well, that he could say it by heart backwards; and this took him five years and three months. Then he read to him *Donat, le Facet, Theodolet,* and *Alanus in Parabolis.*[13] These took him thirteen years, six months and two weeks. But you must remember that in the meantime he did learn to write in Gothic characters, and that he wrote all his books; for the art of printing was not then in use. . . .[14] After that was read unto him *De Modis Significandi* and . . . a rabble of others; and herein he spent more than eighteen years and eleven months, and was so well versed therein that in school disputes with his fellow-students, he would recite it by heart, backwards; and he did sometimes prove on his fin-

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[12] Rabelais, F., *The Works of Rabelais,* pp. 33–34. London, Chatto and Windus.

[13] Donatus, a Roman rhetorician, wrote his *Ars Grammatica* in the 4th century; the text was in universal use for over a thousand years, probably the most successful textbook ever written. The author's name came to be used as a synonym for grammar. *Le Facet* was a work on morals. *Theodolet* was an allegory against paganism. *Alanus in Parabolis* comprised the writings of Alain de Lille.

[14] This remark indicates how slowly old methods of education yield to progress. The art of printing had been known for eighty years when this satire was written.

> gers' ends to his mother that *De Modis Significandi* was not scientific. Then was read to him the *Compost* on which he spent sixteen years and two months.[15] And at that very time, his preceptor died of the pox.
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> There was then placed over him an old cougher who read to him . . . [a number of treatises] [16] by the reading whereof he became as wise as any we ever since baked in an oven.

Thus Rabelais ridiculed the length of time taken in teaching the young and the utter foolishness of what was taught. In the end, Gargantua, placed alongside a young fellow trained in the new education for "only two years," appeared to be nothing but "a fool, a sot, a dolt, and blockhead."

4. Schools at the Beginning of the Nordic Revolution

If one should wish to know in a detailed way the school facilities which existed immediately before the Reformation or the percentage of children who received any education, he would be disappointed, since there could be given to his question no definite answer such as that now furnished by statistics in every modern state. But it is known that many different kinds of schools were in existence, especially for boys. Girls were not so well provided for. Just what school, if any, a boy would attend depended somewhat upon the circumstances of birth, parentage, class in society, intelligence, native country, and his future aim in life. The following types of schools were pretty generally found in northern European lands:

(1) Monastic or cloister schools. Although the monastic movement had reached its climax long before this time, it was still vigorous and the numerous orders of monks recruited their ranks by receiving young lads whom they trained to take the vows and spend their lives under monastic rule. These institutions had grown immensely wealthy and, in consequence, offered their inmates a more secure and permanent living than could be found in any secular calling. Such monastic establishments were found everywhere throughout

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[15] *De Modis Significandi* involved methods of interpretation. The *Compost* was a treatise on calculating the calendar.

[16] Rabelais mentions the treatises in detail.

Christendom, though in some countries they were not so rich, powerful, and extensive as in other lands.

(2) Cathedral schools. These schools had been growing for centuries. They trained the priests, and prepared boys who looked forward to a higher training and position in church or state or in commercial activities. Every cathedral provided such a school. Of a similar character were the *chantry* schools, which were conducted by priests who received their living from endowments provided both for the celebration of mass for the soul of the donors and for the instruction of poor youths. Similarly, the collegiate churches taught youths free of charge. In many of the larger towns, in addition to such schools as those mentioned above, a second or third school would be established in another church of the parish, but it would still be under the control of the scholasticus of the cathedral church school. All of these types were church schools, and instruction was conducted in the Latin language.

(3) Burgh schools. Next in order may be listed the *burgh* Latin grammar schools, and the vernacular schools under the management of the towns. A fuller explanation of these schools is necessary for an understanding of the evolution in the next era. In fact, it may be quite positively asserted that the most vital and significant feature of education during the 15th and 16th centuries was the establishment of schools fostered by the Hanseatic towns of northwestern Europe.

Civil control of schools. In all the Hanseatic towns, schools were established under municipal auspices; hence, in many such places the church authorities opposed this movement vigorously. Nowhere, however, did the schools appear earlier than in the busy towns of the Netherlands, and nowhere was there less opposition to their establishment. As already discovered, these towns enjoyed a greater measure of autonomy than those in other lands. The church was largely overshadowed, and the nobility were favorable to the schools, especially when education assisted the commercial activities in which they were interested. According to Douma, a well-known authority on Dutch education: [17]

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[17] Douma, H., *Geschiedenis van het Lager Onderwijs en de Schoolopvoeding in Nederland,* pp. 34–35. Purmerend, J. Muusses, 1900.

> In the fourteenth century the town was already in control of education, and would never again surrender it. The civil authorities appointed the teachers, paid their salaries and provided for the building and all the furnishings. . . . Instruction was a monopoly of the municipal authorities.

In most instances, the schools were supported in part by tuition fees, which were collected by the town authorities and not paid directly to the teachers. In some cases, the schools were actually free, however, and in them all children were welcomed.

Beginning of lay control and support of schools in England, and Scotland. During the early Middle Ages the church encountered but little opposition in exercising control over the schools of England and Scotland. It is true that ecclesiastical control was resisted in secular courts, and that King Edward III expressly asserted that pleas respecting patronage of grammar schools were to be referred to the King's courts; but church control of the schools was rarely disputed. In the later Middle Ages, however, British freemen, below the rank of the gentry, greatly increased in wealth, power, and prestige. Religious, craft, and merchant guilds were chartered, as were municipal guilds; and in Scotland there was actually a league of burghs. Through these chartered bodies, members of the middle class engaged in various governmental, religious, and social activities. Many guilds supported and controlled schools; a famous example of this type of guild school was the grammar school of Stratford-on-Avon, owned and controlled by the Guild of the Holy Cross. In some cases, wealthy laymen endowed schools and placed them under the control of chartered bodies of laymen. In other instances, municipal corporations supported schools which were controlled by officials of the church; but many schools supported by town governments were, certainly before the end of the 15th century, taken under the full control of the town governments.[18] There were many such burgh, or town, schools in Scotland.

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[18] De Montmorency, J. E. G., *State Intervention in English Education*, pp. 23, 24, 33–36. Cambridge, Cambridge University Press, 1902. Grant, James, *Burgh Schools of Scotland*, pp. 30–34, 94–109. London, W. Collins, Sons and Company, 1876.

Two grades of schools. Private or hedge schools, such as sprang up in other Germanic lands at this time, were not permitted in the towns of the Netherlands. In public institutions, full provision was made for all classes of students. Two types of schools were prevalent: first, the *common* schools; and second, the *learned* schools.

In the common schools, reading and writing were taught in the vernacular. As these institutions were established for the great middle class—in other words, for the artisans and small-business people—arithmetic was also an important subject of instruction. As early as the 13th century, French likewise was taught in many of these schools, for this language was well-nigh indispensable in business. Frenchmen were often employed to teach bookkeeping. In the 14th century, French was regarded in some of the provinces of the Netherlands as the final requisite of a good education. It was the language of the court, of the official class, and of business. Since it was favored by the democratic element, even in the small schools of the towns the children of the common people were taught to read and write French.

Such elementary schools were looked upon as practical, while the learned schools, or the Latin schools, were considered theoretical or purely cultural. The Latin schools were likewise, however, under municipal control. They met the needs of the higher commercial classes and of all those who sought to enter professional life.

Extent of cultural opportunity. All authorities agree that learning was more widely diffused in the Netherlands than in any other country. Guicciardini, an Italian historian, testified that "even the peasants in Holland could read and write well." [19] Motley, the chief historian of the Netherlands, paints a remarkable picture of the learning and culture of these peoples. He tells us: [20]

> It was a land where every child went to school, where almost every individual inhabitant could read and write,

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[19] Davies, C. M., *History of Holland and the Dutch People*, Vol. I, p. 487. Quoted by Campbell, Douglas, *The Puritan in Holland, England, and America*, Vol. II, p. 340. New York, Harper & Brothers, 1893.

[20] Motley, John Lothrop, *The United Netherlands*, Vol. IV, p. 432, and pp. 566–567. New York, Harper & Brothers, 1867.

> where even the middle classes were proficients in mathematics and the classics, and could speak two or more modern languages. . . .
>
> An excellent reason why the people were so well governed, so productive, and so enterprising, was the simple fact that they were an educated people. There was hardly a Netherlander—man, woman, or child—that could not read and write. The school was the common property of the people, paid for among the municipal expenses. In the cities, as well as in the rural districts, there were not only common schools but classical schools.
>
> In the burgher families it was rare to find boys who had not been taught Latin, or girls unacquainted with French. Capacity to write and speak several modern languages was very common, and there were many individuals in every city, neither professors nor pedants, who had made remarkable progress in science and classical literature. The position, too, of women in the commonwealth proved a high degree of civilization. They are described as virtuous, well-educated, energetic, sovereigns in their households, and accustomed to direct all the business at home.

Undoubtedly the inhabitants of the Netherlands were the most highly educated and progressive people in the modern world at that time. They were also the wealthiest and the most artistic.

The culture of the Netherlands spread along the Rhine and over into Germany. As Janssen states: [21]

> One is guilty of no historical inaccuracy in inferring, roundly, that from the fourteenth century onward every market town, or, at any rate, every bigger town in the Upper Palatinate had its own school.

Frankfort on the Main had three collegiate schools, which in 1478 totaled 318 pupils. Brunswick had two municipal Latin schools. In 1490, Zwickau had, in a two-story building, a school of four classes with 900 students. This school was supported by an endowment. In 1491, Görlitz had six teachers employed and from 500 to 600 pupils. Emmerich, on the lower Rhine, in 1503 had a school of six classes; in 1510 there were 450 pupils; and eleven years later the number had risen to 1500. Schlettstadt, in Alsace, in 1517 had 900 pupils. Nuremberg, one of the wealthiest and most aggressive commercial towns, had four Latin schools.

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[21] Janssen, Johannes, *History of the German People at the Close of the Middle Ages,* Vol. XIII, p. 30, note 1. London, K. Paul, Trench, Trübner & Co., 1905.

(4) **Brethren of the Common Life.** One of the most interesting factors in pre-Reformation education was the far-reaching work of the Brethren of the Common Life. This organization was not a monastic order in the usual sense of the term, for the members took no vows, did not separate themselves from ordinary human affairs, and did not live, as the friars did, by begging. They dwelt together in "houses," labored at all sorts of tasks, practiced communism, and helped the poor. Their primary purpose was the cultivation of that simple, spiritual living which had produced the admirable example of piety and devotion, Thomas à Kempis, reputed author of *The Imitation of Christ* (*De Imitatione Christi*). Religiously they were related to the Wycliffe movement in England, and the Hussite in Bohemia. They preached the Gospel in the vernacular to the common people, and translated the Scriptures and circulated copies widely among the poor. The order received the approval of the Pope, but its activities helped to lay the foundation for the Protestant revolution.

Education was apparently not within the original intent of the aims of the Brethren. But they soon began to utilize the schools as the most effective instrument for realizing their purposes; and this became the chief source of their fame. In general they did not establish schools, but connected themselves with the public schools of the various towns. They furnished hospices for poor boys, and employed them at various kinds of work by means of which they could earn a living, for example, by copying the Scriptures and textbooks for the schools. In an age when there was practically no discipline among schoolboys, the Brethren introduced control, in addition to a number of other reforms. The Brethren were the first to appreciate the new learning of the Renaissance and to urge the teaching of the classical authors. Eloquence was cultivated in connection with the revival of interest in preaching. Their greatest service was in thus uniting true Christian piety with genuine appreciation of humanistic learning. Their work prepared for the Reformation.

By the beginning of the Reformation, all northwest Europe was permeated with the influence of these men. One of their leaders, Busch, listed fifty schools under their charge by 1470. Later, as many more were added; moreover, through the scholars they trained, the influence of the Brethren penetrated everywhere. Their original center was in Deventer, Holland; but from the Netherlands their school activity spread up the Rhine to Switzerland, then into Germany on the one side, and to France on the other. Their schools furnished the models for the reorganization and reform of all the large schools of western Germany. John Wessel was said to be the "second founder" of the University of Paris; Erasmus, though far from enthusiastic as to the efficiency of the order, carried their influence to England as well as to continental lands. Some of their schools became quite famous and enrolled several thousand students at one time. The school of John Sturm, at Strassburg, was a continuation of their work, and even the Jesuits owed much to their practices. Their chief contribution was a new conception of orderliness and discipline in school work.

Most of the great continental scholars of this period were the products of their schools or were in some way directly under their influence. Among these were: Johann Busch (1399–1479), John Wessel (1420–1489), Rudolf Agricola (1443–1485), Alexander Hegius (1433–1498), Louis Dringenberg (1430–1490), Wimpheling (1450–1528), John Reuchlin (1455–1522), Desiderius Erasmus (1465–1536), John Sturm (1507–1589), and Martin Luther (1483–1546).

Still another way in which the Brethren influenced culture was through their printing establishments. During the 14th and 15th centuries, the multiplication of all kinds of books, especially texts for students, had grown to large proportions and a considerable book trade had come into existence. This work involved copying books by hand—a slow, laborious, and, withal, costly process. Quite early the Brethren of the Common Life set up in their houses *scriptoria*, where poor boys were employed in this work of copying, and thus earned their own support and at the same time received an education. When the art of printing was introduced, the Brethren were quick to replace the *scriptoria* by printing presses. "In 1490, there were no less than sixty different printing establishments carried on under the supervision of the Brethren."[22] The celebrated schoolmaster, John Sturm, after studying for some years in the Liège School of the Brethren, attended the University of Louvain, where he set up a press; later at Paris he issued many editions of the Latin authors.

The general character of the works published by the Brethren was predominantly religious; the materials included the Scriptures, books of devotion, and texts used in the schools and universities. While the Brethren did not give these publications away, as did the monks, the books were sold at very low prices so that even the poor might possess them. Unlike many of the commercial publishers of the time, the Brethren aimed to meet the needs of the great middle and lower classes of people; accordingly, many of their works were printed in the vernacular tongues.

Instruction among the evangelical sects. The educational activities of the many evangelical sects scattered throughout central Europe have uniformly been ignored by educational historians. The importance of their contribution to the evolution of popular culture can no longer be overlooked. According to a recent authority, literacy was widespread among them:[23]

> All children could read and write; important passages of Scriptures were given as copy for writing, and also learned by rote. Portions of the Gospels were possessed not merely by their preachers, but also by the well-to-do and the more zealous. Every member was taught the Gospels especially, so that their inquisitors and the priests were amazed.

Not only men, but women too, frequently learned the Gospels by heart, and in one instance a common countryman could repeat from memory the entire book of Job. The meeting places of these peoples were sometimes called schools (*scholae*). It was notorious that even the less learned among them knew the Scriptures more thoroughly than the scholarly doctors.

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[22] Putnam, George Haven, *Books and Their Makers During the Middle Ages,* Vol. I, p. 400. New York, G. P. Putnam's Sons, 1896–1897.

[23] Thudichum, Friedrich, *Papsttum und Reformation im Mittelalter,* p. 11. Leipzig, Eduard Schmidt, 1903.

In general they knew only the Scriptures, but their leaders usually acquired a more extended knowledge. The catechism of the Waldensians was used extensively among many of these sects. The training of the leaders of the evangelicals was generally confined to the vernacular, though individuals were often familiar with the Greek and Latin languages, as well as the writings of Church Fathers. Before Luther's Reformation, the Bohemian Brethren, or Hussites, had printed the Scriptures in the vernacular, and they possessed a good system of schools and a celebrated university.

The point of greatest significance in all these efforts—of the evangelical Catholics, like the Brethren of the Common Life who inhabited the Rhine Valley, and likewise of the heretical sects, like the Hussites and the Waldensians—lies in their keen interest in diffusing a knowledge of reading so that every individual might know the Scriptures for himself. This missionizing impulse may well be considered the vital principle of any common-school education, but these peoples failed to establish a true system of education, for their training was confined to religion alone and to their own adherents exclusively.

Downfall of medieval schools. The new wine of Humanism and Protestantism could no longer be contained in the old schools of Catholic medievalism. None of the other institutions of the time showed a more immediate and decisive reaction to the reform movement. The greatest effect upon the schools was felt in Germany, and followed closely Luther's attack upon the abuses of the Roman Church. The new religious doctrines circulated everywhere with incredible speed, and aroused the highest pitch of popular enthusiasm. The downfall of the monasteries and cloisters put an end to the educational work which they had fostered for so many centuries. The cathedral and other church schools went down before the same attack. A similar fate overtook the town Latin schools, and also the German reading and writing schools. The latter, however, were not so completely deserted as were the schools that trained for the monkish life and the priesthood.

The universities were affected as seriously as were the lower schools. The University of Cologne, which had 370 students in 1516, found its enrollment decreased to 251 in 1521, and three years later matriculated only 54. Erfurt, the foremost seat of humanistic learning in Germany, enrolled 311 during the academic year 1520-1521. The following year only 120 matriculated; the next year, 72; and by 1527 the number had declined as low as 14.[24] The celebrated University of Vienna enrolled 661 new matriculants in 1519; the next year, only 569; and during the succeeding years the numbers continued to decrease. In 1525 the disputations at the university were given up for want of students, and by 1532 only 12 students enrolled. Rostock, the leading educational center in northern Germany, which had usually enjoyed an attendance of about 300, in 1521 matriculated 123; in 1524, 38; in 1525, 15; the next year, only 5; and in 1529, none.[25] In 1521 Leipzig had enrolled 340; and in 1526, only 81.

Wittenberg, where Luther, Melanchthon, and Bugenhagen were teaching—the arsenal of the Lutheran revolt—experienced a peculiar fortune. For several years the number of students rose to phenomenal heights; then suddenly the enrollment fell to such a condition of depletion that Luther despaired and felt obliged to appeal to the Elector John Frederick of Saxony to rescue the institution. According to Janssen, who is not an unfair critic, there were 245 students in 1521; 285, the next year; and only 73, in 1527. In Heidelberg there were as many professors as students. The same disheartening decline took place among the Swiss universities. From Basle, the most flourishing center of printing, the wail arose in 1524: "The University is as though dead and buried. Empty are the chairs of the teachers, and empty the benches of the learners." In 1522, only 29 new students were matriculated at the University of Basle; and four years later, only 5.[26] Several institutions—among them, Erfurt—never recovered from their disastrous experience, but passed out of existence.

Reasons for the decline. What were the reasons for this wholesale desertion of both the higher and the lower schools at a time when Europe was seething with new intellectual energy? Erasmus, the most celebrated scholar of the period, placed the blame squarely upon Luther: "Wherever Lutheranism prevails, there learning disappears," he charged in 1528. Even earlier than this, Luther had himself become profoundly distressed at the desertion of the schools. He blamed, in turn, the town authorities, the parents of the children, and the Devil. In 1529 he wrote: [27]

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[24] Janssen, Johannes, *op. cit.*, Vol. XIII, p. 258.

[25] Paulsen, F., *Geschichte des gelehrten Unterrichts,* Vol. I, pp. 184–195. Leipzig, Veit & Co., 1896.

[26] Janssen, Johannes, *op. cit.,* Vol. III, pp. 359–360.

> The members of town councils, and nearly all the municipal authorities let the schools go to ruin, as though they had had absolution from all responsibilities. Nobody seems to think that God earnestly wills that the children He sends us should be brought up to his praise and for His service; but everybody nowadays is in a hurry and scurry for his children to be earning temporal sustenance.

(1) The first cause for this decline of the schools was the violent denunciation by humanistic scholars, and more especially by Luther himself. He termed the universities "great gates of Hell"; he condemned the monasteries; and he called Aristotle a "damnable heathen," and human reason the "Devil's mistress." But it must not be overlooked that even before this time the monasteries and other ecclesiastical schools had come into disrepute and popular aversion. The monastic life contributed not a little to the bitter disfavor in which these institutions were generally held.

(2) Another cause lay in the attitude of the common people toward the products of the schools. Through the years preceding the Reformation, people generally had conceived an intense hatred and distrust of all higher learning and learned men. They felt that the priests, who were the chief representatives of learning, had purposely duped and led them astray from the simple truth of the Gospel, and that the lawyers were using their knowledge of law to deceive and cheat the people out of their rights. They believed that worldly learning and dissoluteness, intellectual pride and chicanery were inherently and always associated. Now that they had the Scriptures in the vernacular to teach them the truth of the Gospel and how to live simple and good lives, they saw no need of the ancient languages and the learning of the schools.

(3) A third cause for the decline of the schools lay in the relation which an educational system bears to the securing of

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[27] Janssen, Johannes, *op. cit.*, Vol. XIII, p. 18.

a livelihood. Parents had sent their children to school to prepare them to secure positions which would afford a living. Up to this time the largest number of the most comfortable and desirable livings were in the gift of the church. Prebends, abbacies, benefices, bishoprics, cardinalates, curacies, bursaries, chancellorships, endowed priesthoods, and various other clerical positions and livings abounded. Generally speaking, the poor entered the monasteries or cloisters where a living was assured. The rich and ambitious entered the secular services of the church because of numerous preferments. But any boy might rise to a position of great power, wealth, and celebrity. "A butcher's son might become a cardinal; a fisherman's boy fill the chair of Saint Peter."[28] Girls had two choices of support: first, to marry and have a family and home; or second, to enter a convent, where a satisfactory living was assured.

The vast number of such ecclesiastical livings can be guessed from a single example. In the old Hanse free city of Lübeck there were five parishes, each with its large parish church and numerous chapels. The city itself had a population between 30,000 and 50,000 people. At the time of the Reformation, the cathedral supported sixty-six priests and another church had sixty-eight, while the total number of priests in the city was about eight hundred. This number meant a priest for every ten or twelve families in the town. In addition to these offices, monasteries and convents, as well as brotherhoods, existed in abundance.[29]

Down to the time of the Reformation, education had trained the young directly for the kind of living and type of position expected of the individual. During the age of chivalry, the future knight practiced from boyhood the seven knightly arts; he received his training as a page in some noble house and, later, served as a squire to some knight. The future artisan was first apprenticed to a master, in whose house he resided to learn everything necessary for his station and calling. He then became a journeyman and, finally, a master craftsman. The future monk entered the monastery as a child; served a novitiate, practicing the rules of the order, and the manual crafts of the monkish life; and, when finally prepared, took the vows of the chosen order. Priests were trained, first of all, in the cathedral schools, where they acquired Latin, the language of the Catholic religion; later, the higher order of priests acquired, in the universities, a knowledge of the liberal arts, scholastic philosophy, canon law, and the more profound doctrines of the faith. Liberal education as we know it today did not appear before the humanistic revival.

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[28] Beard, Charles, *op. cit.*, p. 14.

[29] Ruccius, Walter M., *John Bugenhagen Pomeranus*, p. 75. Philadelphia, United Lutheran Publishing House, 1924.

The overthrow of the Roman Church, with all the monastic institutions and ecclesiastical foundations, threw civilization into wild disorder. All the offices, livings, and appointments within the gift of the ecclesiastical order were threatened with extinction. Furthermore, for some centuries there had been no more admirable feature of medieval civilization than the phenomenal flow of charity which furnished support to poor students. Among the innovations which the Reformation introduced was the doctrine that good works are not essential to salvation. As a result, the new movement dried up at its source the generous stream of charity which had nourished countless institutions and organizations of Christian benevolence, and had furnished livings for numberless scholars. In various lands the nobility plundered the monasteries, churches, and foundations, and appropriated the endowments to their own use.

As a consequence of the changed order of things, with no certainty of future appointments to offices and livings, parents lost all incentive to educate their children. Luther belabored the mercenary attitude of those parents who preferred rather to train their children for manual and commercial vocations than to send them to the learned school to become pastors, teachers, and civil servants. A new civilization was in process of formation, involving a new order of vocational life. Until these new livings had become the established order, and new schools could be organized that would train for the new posts, parents did not know definitely what training to give their children. How long the transition to the new order would take and what the new institutions would be no one could foresee.

(4) Finally, the process of readjustment was delayed by the intense and interminable theological wrangling and struggle which ensued. Throughout the 16th century, religious bigotry and bitterness hampered the schools; only when toleration became the general practice did progress become possible.

Four groups of educational reformers. The first half of the 16th century was an era of intense discussion of educational theory. The rediscovery during the previous century of the pedagogical writings of Plato, Plutarch, Quintilian, Cicero, and others of the ancient world aroused extraordinary interest in the training of the young. Moreover, the new educational views that were proposed were of the greatest significance, for they were instrumental in forming a new order of schools which was to endure down to our own day. The reformers were fully united in their contempt for medievalism in all its forms, but by no means did they see eye to eye in their plans for reorganization. In general it is virtually impossible, as well as misleading, to classify educational thinkers. There are, nevertheless, certain points of common agreement which may be observed among certain of the thinkers of that individualistic age. The lines that divided them into groups, strange to say, had little to do with the great religious schism. Staunch Catholics like More and the Jesuits were Humanists of about the same stripe as the Protestants Melanchthon and Sturm. The differentiating lines were to be found in their ultimate aims and the use each made of the classical literatures.

With these dangers of classification noted, the leading thinkers of the day may be roughly divided into four groups: (1) Moralistic Humanists; (2) Religious Reformers; (3) Naturalistic Humanists; and (4) Stylists.

(1) *Moralistic Humanists.* This was the most extensive group. It included such scholars as Colet, Lily, and More, in England; Erasmus and Vives, in the Netherlands and England; Melanchthon and Bucer, in Germany; and Budaeus and Ramus, in France. These men subscribed to the current slogan, *Res et verba;* but *res* (content or realities) signified to their minds truth as it is related to human life. They looked upon classical literature as the source of moral power in the formation of character. The ancient writings were

storehouses of knowledge, especially the knowledge of man and of the art of living the best life.

The writings of Plato and Seneca were replete with the profoundest ethical wisdom and experience of the ages; their precepts, proverbs, and adages were calculated to make the youth reflect; and *Plutarch's Lives* taught them how to judge men and moral actions. Moreover, the humanistic scholars could point to numerous examples of wild young men who, caught by a powerful enthusiasm for classical literature, had become by their study sober and noble scholars. These Humanists were led to attribute to literature a moral influence and power which seems grossly exaggerated. Furthermore, many of these men, notably Erasmus, fully expected that an earnest devotion to humanistic learning would restore the Roman Church to its pristine purity and glory. They believed that the study of the ancient languages and, more particularly, of the Scriptures in the original tongues would bring back the Christianity of the New Testament. Relying on this hope, they declined to follow the doctrines of Luther, because they expected to reform the church from within.

(2) *Religious Reformers.* Among the Religious Reformers may be included: Luther, Bugenhagen, Calvin, and John Knox. Calvin was the most scholarly of the group and may be accounted the chief Humanist among them. All of these men agreed on one point: they made Latin the language of the schools, and the vernacular, the language of the church. They looked upon the study of Latin and Greek as essential to the preservation of Christianity in its original purity. The revival of classical learning had been one of the chief causes which, by an exposure of the teachings and the claims of the Roman Church, led to its downfall. The growing opposition to the study of these languages was looked upon as a scheme of the Devil to plunge the world once more into degradation and corruption.

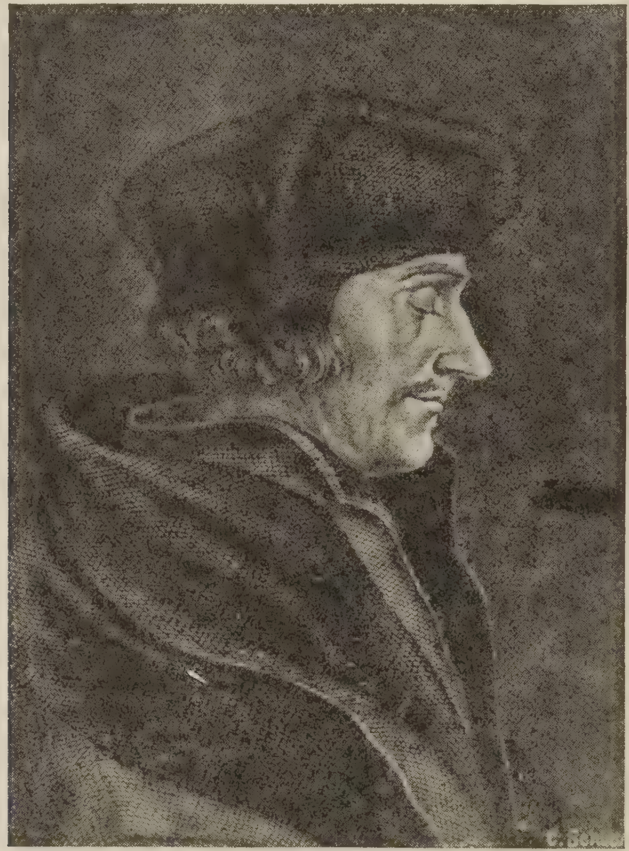
The Religious Reformers looked upon the Latin and Greek languages as the great and indispensable means for understanding the Scriptures and the writings of the Church Fathers. They were not so much interested in the classical authors as such; in fact, they felt that many ancient authors were to be shunned because of their licentiousness. Latin eloquence was to be cultivated, not for its own sake, but as a help in preaching. The difference between these reformers and the Moralistic Humanists is not very great: the former emphasized more the religious literature of the Christian centuries; the latter placed a higher value upon the moral teachings of the pagan authors, and were more deeply influenced by the dignity and beauty of their writings.

(3) *Naturalistic Humanists.* Among the Naturalistic Humanists may be classed the Spanish-born Juan Luis Vives, the chief educational writer of the period; and Rabelais, the rollicking French satirist who rose to the height of prophecy and whose ideas are still a living force, while those of more substantial scholars have long since been forgotten. These two were interested in the ancient literatures for what they had to offer, not so much in the way of moral precepts, but rather in psychology, geography, history, and knowledge of the great world of nature. It is probable that the study of medicine may account for their profound and direct interest in nature. While both recognized the evils of the church, neither gave great attention to theology.

(4) *Stylists.* This name has been given to all those practical Schoolmen who followed the aims and used the methods of John Sturm of Strassburg. These scholars received their inspiration from the Italian Renaissance of that final period when formalism had become dominant. Their goal was to train the student in the idiom, phraseology, and manner of speech of Cicero. The entire course of study from childhood on had as its objective the attainment of Ciceronian eloquence. This same objective was set up by the Jesuits for the students of their colleges.

Erasmus. It may well be doubted whether any scholar was ever more revered and worshipped by his contemporaries. Born in Rotterdam in 1465 and educated chiefly under Alexander Hegius at Deventer, Erasmus might be considered the most celebrated product, at once, of Dutch and humanistic culture. He did not, however, enjoy his early schooling under the Brethren of the Common Life, and in later years he harshly criticized their methods.

For higher training he went to the University of Paris, which was still, after a lapse of almost three centuries, the foremost center of learning outside of Italy. The university was at this time taking on the new learning. Here Erasmus taught Latin and took up the study of Greek. He made several prolonged visits to England, where he lectured briefly at one time at Oxford and later at Cambridge, but where he mainly engaged in learned intercourse with Colet, More, and others who were introducing the new learning. By nature rather timid and averse to conflict, he declined to join the Protestant cause. Nevertheless, he deplored as deeply as anyone the degeneracy of the Roman Church, and labored industriously to reinstate Christianity in its original purity and simplicity. He held that reform could be more effectively brought about from within the church than it could by schismatic and revolutionary measures.



Desiderius Erasmus.

The aims of his life may be stated, broadly, as follows: to refine taste, to purify morals, to promote the unity and peace of Europe, to reform ecclesiastic abuses, and to correct theological errors. The means by which this vast program could be effected was free and exact scholarship. The knowledge needed was contained in the Scriptures, in patristic literature, in the classical authors, and in the interpretations of the church. Erasmus hoped for one universal language for all scholars, the living Latin tongue; for an undivided Catholic Christianity; and for a single culture for a united Europe, a culture rooted in the life of Athens and Rome, but vitalized and refined by ancient classical literature and the Scriptures.

The most significant contributions of Erasmus to the education of his day may be summarized under three headings: (1) Service to exact scholarship; (2) Discussion of educational problems; and (3) Textbooks.

(1) *Service to exact scholarship.* Erasmus was everywhere revered as the incomparable and most erudite scholar of the day. He spoke and wrote Latin with meticulous purity and beauty of diction; likewise, among all the scholars of northern Europe, he had the best command of the Greek language. His knowledge and appreciation of the classical and patristic writers was comprehensive and exact. He did more than any other man of his day to edit accurate texts of a number of classical authors. His edition of the Greek New Testament was a work of extraordinary merit; it had no little effect upon the religious revival of the time, and may even be said to have anticipated the critical textual scholarship of our day. All in all, no man in northern Europe contributed so much as did Erasmus toward the restoration of the exact languages and learning of the ancient Latin and Hellenic worlds.

(2) *Discussion of educational problems.* In an age when crude medieval training was rapidly being driven out by the enthusiasm for new learning, questions of educational practice necessarily demanded attention. The principles and the procedure of humanistic pedagogy had to be worked out. Just what should be the aims of Humanism had also to be settled.

There was general agreement that the foundation of an education must be the complete mastery of speaking and writing Latin, together with a thorough knowledge of Greek;

but there was considerable variation of opinion in regard to working out the details. What practice should be adopted for the introduction to the Latin language? Should it be the grammatical method, or the conversational? How should grammar be taught: as a series of rules, or, according to the inductive method, through a study of usage as found in the best authors? There also existed a wide difference of view as to the authors which should be read.

Again, the question of the best type of school was discussed. Should it be private tutoring in the home, and should such groups be confined to a selected number of students? Or, should the child be sent to one of the masters who kept a private school in the town? Or, was the public town-school the best? These, as well as numerous other problems, were discussed by the thinkers in education, Erasmus among them.[30]

The educational doctrines of Erasmus form a remarkable compilation of principles culled from ancient writers generally and of shrewd observations made as pupil and teacher. The main sources were naturally Quintilian and Plutarch. The aim of education was, according to Erasmus, the "good man" who had been refined and informed by the study of classical literature. Latin was not considered an end in itself, as it was by the stylistic Humanists, Sturm and his followers. Against this extreme and limited purpose of humanistic study, Erasmus wrote the *Ciceronianus,* in which he severely criticized the silly imitation of Ciceronian style. For him, although language was of vital importance, it was, after all,

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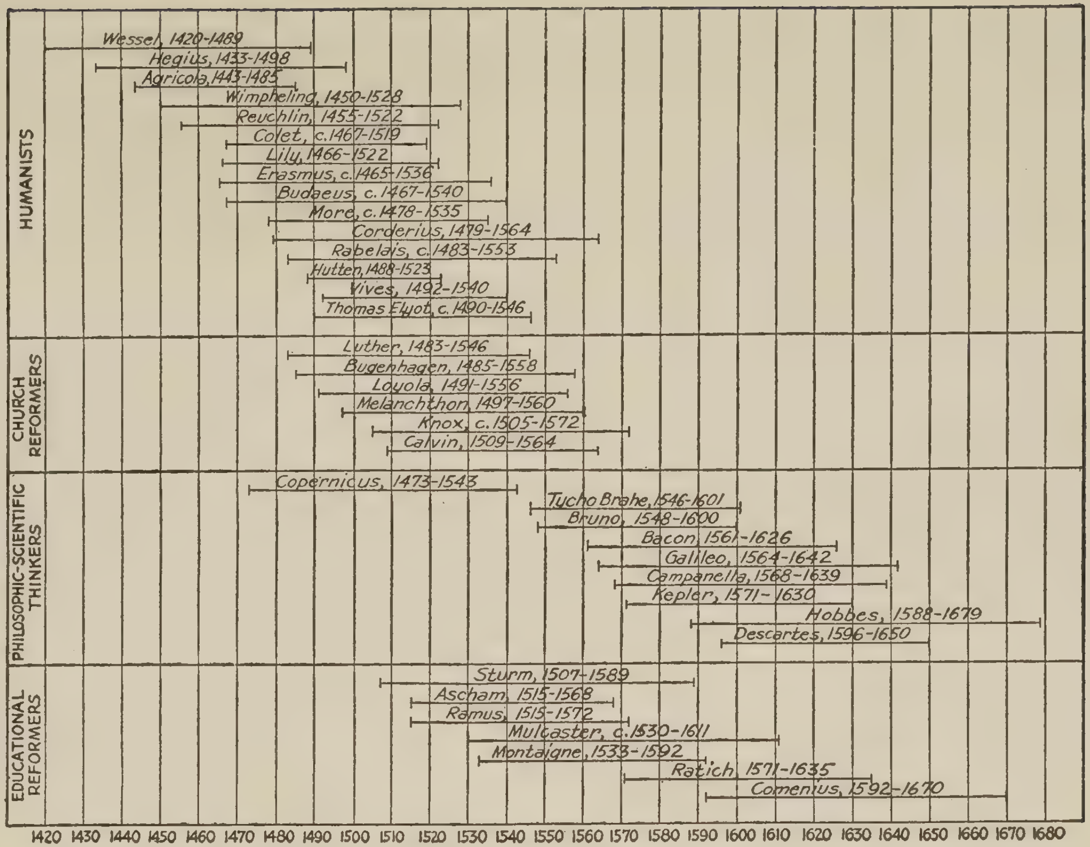
[30] The chief writings in which Erasmus expressed his views on education are as follows:

1. *De Ratione Studii:* a treatise on the right method of instruction. 1511.
2. *Dialogus Ciceronianus:* a dialogue on the best style of speaking. 1528.
3. *De Pueris statim ac Liberaliter Instituendis:* a work dealing with the constant and liberal instruction of youth. 1529.
4. *De Civilitate Morum Puerilium Libellus:* a book of good manners for children.

Several of these works will be found translated in Woodward, W. H., *Desiderius Erasmus.* Cambridge, Cambridge University Press, 1904.



Chronological Chart, 1400–1700.

only the instrument by which moral values were to be attained. The supreme effort of ancient thought had been directed toward the "art of living," and the results of such effort were expressed in the classical literature, laws, religion, and institutions. All of this culture was included in Humanism, and the study of it was believed, according to Erasmus, to be the best means of producing the wise and happy life.

(3) *Textbooks.* To accomplish his purposes, Erasmus wrote a number of textbooks that were printed in every country of Europe and continued to be used for several centuries. Several of these books are of the same style; they contain short sentences embodying quaint conceits, proverbs, maxims, witty utterances, or pithy sayings such as in ancient times were the current coin of philosophy. *The Colloquies* comprised the most popular text. In them Erasmus made an effort to teach boys to speak Latin by talking about the common objects of life.

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CHAPTER III

Protestant School Reform

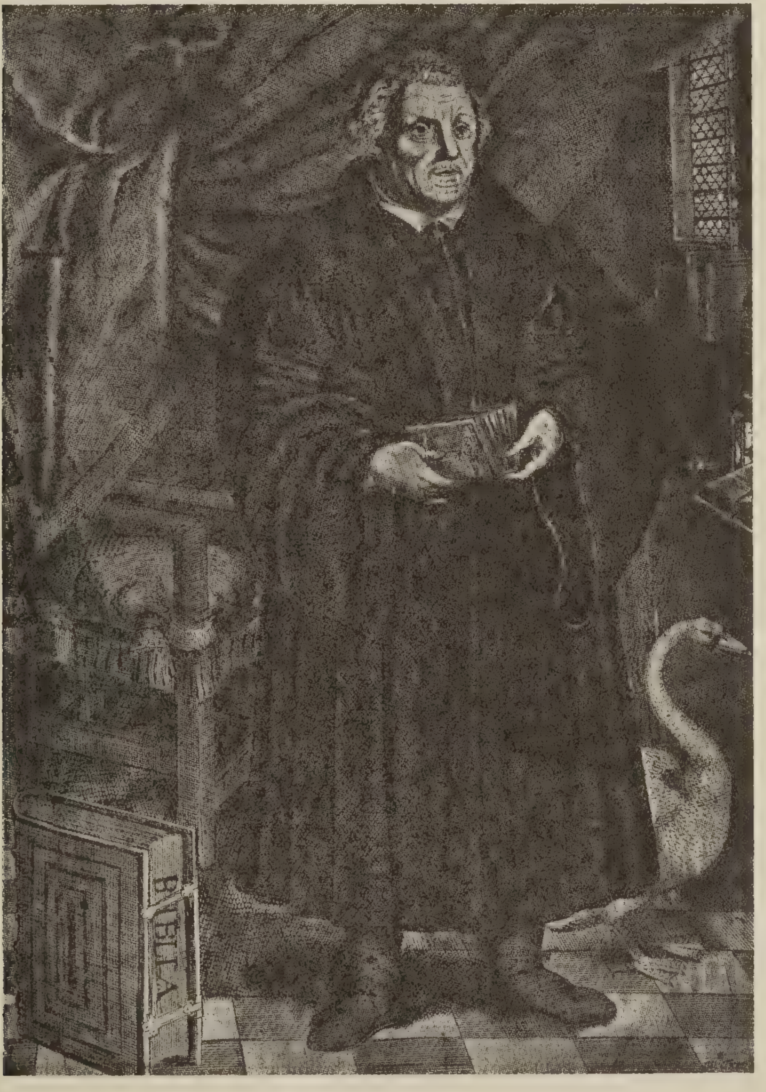
Luther and Other German Reformers

1. Luther

Life. Although there were many urgent reasons for the great Nordic revolt, the central driving force in Germany was the irresistible demand for a religious and moral reformation. This was chiefly due to the intense conviction, the contagious faith and piety, and the elemental courage of Martin Luther. He did more than any other individual to provoke the storm and to unite and direct the energies of the great social, economic, and cultural revolution.

Luther was born at Eisleben, Saxony, in 1483, and spent his childhood at Mansfield. His father was a poor miner. In spite of poverty, the boy secured the usual sort of education in the schools of Magdeburg and Eisenach. Later he attended the University of Erfurt, just when it was becoming interested in the humanistic movement. After his university course Luther became an Augustinian monk. He was called to the faculty of the newly formed University of Wittenberg, from which he carried on his work of reform. It was here that he was converted through reading the Scriptures, and reached the conviction that salvation comes by faith and not as a result of good works. Henceforth this conviction became the dominant motive of everything he did. In 1517, when he nailed his ninety-five theses to the door of the university chapel, he took the first decisive step in his career as a reformer.

Educational efforts. For Luther, the reform of the schools was an essential factor in the renovation of the church. He approached the educational situation, not as a Humanist nor yet as a practical schoolmaster, but rather as a religious reformer and statesman. He had more to say about the need for reorganization of the schools than any of his contemporaries, but he dealt chiefly with broad general principles; the details he left for others to work out. His educational views and reforms grew directly out of his contacts with the rapidly changing conditions that characterized the decade from 1520 to 1530.



Martin Luther.

During these years he frequently discussed education, especially in his addresses, sermons, table talks, letters, commentaries, and other writings. The most important of these discussions are as follows: (1) *Address to the Christian Nobility of the German Nation respecting the Reformation of the Christian Estate* (1520), (2) *Letter to the Mayors and Aldermen of all the Cities of Germany in Behalf of Christian Schools* (1524), and (3) *Sermon on the Duty of Sending Children to School* (1530).

Contradictory views of Luther's services. Luther's educational services have been extolled in superlative terms by some, and as greatly berated by others. One controversy centers about his relation to the rise of the state common school; another finds its focal point in his attitude toward higher learning, particularly humanistic culture.

A sharp conflict as to Luther's significance for popular education divides educational historians, as well as other writers. Dr. F. V. N. Painter characterizes the *Letter to the Mayors and Aldermen* as "the most important educational treatise ever written." He concludes his study of Luther as an educator by declaring: [1]

> Luther deserves henceforth to be recognized as the greatest, not only of religious, but of educational reformers.

A still later American writer adopts the same point of view: [2]

> Luther, therefore, stands forth as the greatest educator of his age, and in the very front rank of the world's greatest educators.

Dr. T. M. Lindsay, a Scotch historian of the Reformation, reaches a similar conclusion: [3]

> It is to Luther that Germany owes its splendid educational system in its roots and in its conception. For he was the first to plead for a universal education—for an education

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[1] Painter, F. V. N., *Luther on Education,* p. 168. St. Louis, Mo., Concordia Publishing House, 1928.

[2] Bruce, G. M., *Luther as an Educator,* p. 299. Minneapolis, Augsburg Publishing House, 1928.

[3] Lindsay, T. M., *Luther and the German Reformation,* p. 238. New York, Scribner, 1900.

> of the whole people, without regard to class or special life-work.

Many other writers of general history, church history, and educational history have expressed the same high appraisal of Luther's contribution to popular education.

On the opposite side range numerous Catholic and a few non-sectarian authorities. Janssen, in his voluminous *History of the German People*,[4] is especially critical of Luther and the effects of his new doctrines upon the schools. Paulsen, the German philosopher and educational historian, treats the question with more discrimination but does not attribute the origin of popular education to the credit of the "Great Reformer."[5]

This extreme diversity of view is occasioned not so much by bigotry or religious prejudice as by more inherent causes. The contradictory attitudes which Luther himself expressed at different periods of his experience, together with a certain general indefiniteness of view, are largely responsible for the varied opinions. A change occurred in Luther's attitude toward the common people during the period from 1525 to 1530, when three new experiences profoundly affected his judgment and altered his views. These events were the Peasants' War in 1524–1525, the church-school survey in 1527–1528, and the spread of the Anabaptist doctrines. To appreciate both Luther's contribution to education and his change of view, it is essential to reconstruct, in part, the drama of his life from 1520 to 1530.

Religious and educational reform. In 1520, Luther published in rapid succession three of his most powerful and epochal works. The first was the *Address to the Christian Nobility*, in which he pleaded with the German princes to undertake the reform of the church. He urged that the university curriculum be revised, and he suggested elementary schools for boys and also for girls in which "the chief and most common lesson should be the Scriptures."

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[4] Janssen, Johannes, *History of the German People at the Close of the Middle Ages,* Vols. I, III, and XIII. London, K. Paul, Trench, Trübner, and Company, 1905.

[5] Paulsen, F., *German Education, Past and Present,* pp. 76–77. London, T. F. Unwin, 1908.

The second treatise was entitled *The Freedom of a Christian Man.* In this dynamic work Luther gave expression to the growing sense of individual independence and judgment which was springing up everywhere in the Teutonic breast. The treatise added vitally to the budding self-respect of the lower classes, and encouraged the peasantry to question the galling tyranny of their petty feudal overlords and to lay claim in a humble way to the most ordinary rights of common humanity.

The third treatise, which issued red-hot from Luther's soul, was *On the Babylonish Captivity of the Church.* This scathing denunciation of the doctrines and practices of the papacy marked his complete determination to break with the Roman hierarchy.

These three publications threw the German world into a state of religious and educational chaos. The following year Luther was cited before the judgment seat of the papal church at the Diet of Worms and condemned as a heretic. But this condemnation did not turn the mounting tide of revolution. The monasteries were soon emptied of their inmates; the universities lost their students as if a terrible plague had come upon them; students deserted the Latin grammar schools; and the churches began to suffer. Just what was going to happen by way of reorganization was uncertain.

New problems. Among the serious practical problems which now confronted Luther was that of finding pastors for the churches. In former times the innumerable benefices, prebends, and similar livings had taken care of poor boys and young men who were studying for the priesthood and for other professions. But these livings were swept away in the revolution which was now taking place. Moreover, when once appointed, a priest had formerly been assured a good living; under the new order there was as yet no certainty that the pastoral office would provide a livelihood. Parents refused to have their sons study for a vocation so uncertain. As a result of these conditions the universities were deserted,[6] and Germany faced the utter collapse of all culture and learning.

What made matters still worse was the attitude of the common people toward the study of the learned languages. Having obtained the Scriptures in German, the people saw no reason why their sons should spend years in the study of the forgotten tongues in which they were originally written. As Luther rather savagely put it:[7]

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[6] See pages 66–67 of this text.

> But, you say again, if we shall and must have schools, what is the use to teach Latin, Greek, Hebrew, and the other liberal arts? Is it not enough to teach the Scriptures, which are necessary to salvation, in the mother tongue? To which I answer: I know, alas! that we Germans must always remain irrational brutes, as we are deservedly called by surrounding nations.

This obscurantist attitude on the part of the people toward the study of learned languages aroused Luther's passionate opposition. He regarded such a point of view as a "malicious trick of Satan"; for he believed it was the return of the classical languages which had been of the most vital service to mankind: (1) The greatest service of the Renaissance had been a recovery of the Scriptures through a knowledge of these languages; (2) it had also led to an unmasking of the false claims and evils of the papacy; and (3) it had brought back all the learning of the ancient world.

Furthermore, Luther foresaw that in the great struggle with the Roman Catholic hierarchy Protestant pastors would need to know Latin, Greek, and Hebrew. This view has been well stated by Dr. E. Nohle:[8]

> As the reformatory movement, at least among the leaders, had started from a scientific dispute over the foundations of church doctrines, so the future existence of the new church was dependent upon the possession of scientific weapons in the battle for the right creed, and for this purpose knowledge of the three ancient languages was absolutely necessary.

Luther felt so strongly about the matter that he pronounced the neglect of the languages "a disgrace and a sin." For, as he declared, "we cannot preserve the Gospel without the ancient languages. They are the sheath wherein is contained the sword of the spirit: they are the shrine that holds the jewel."

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[7] Painter, F. V. N., *op. cit.*, p. 183. See also Eby, Frederick, *Early Protestant Educators,* p. 57. New York, McGraw-Hill, 1931.

[8] Nohle, E., "History of the German School System," in *Report of the United States Commissioner of Education* (1897–1898), Vol. I, p. 30.

Luther's plan for reconstruction. Confronted with the sudden and rapidly spreading decline of educational interests, Luther took immediate and energetic measures to bring about reorganization. First of all, in the year 1524 he issued a stirring appeal to the mayors and aldermen of the cities of Germany to revive their municipal schools. There were well over one hundred wealthy and powerful municipalities which, independent of the princes and nobles, were free members of the Holy Roman Empire. For several centuries these free towns had conducted burgh Latin schools and also some vernacular reading and writing schools. Now that Luther had definitely decided to overthrow the authority of the Roman Catholic Church—which, as the mother of schools, had always asserted a proprietary right over all education—the first and, in fact, the most natural step, under the circumstances, was to urge the city authorities to promote new schools in harmony with the Protestant view. Luther appealed to these towns for the following reasons: (1) They had for several centuries been asserting the right to establish schools independent of the authority of the Roman Church. (2) These free towns were more independent of church influence than the individual princes. (3) At this time the people of the towns were generally in enthusiastic accord with Luther's break with the authority at Rome. (4) The towns had it within their power to utilize the wealth of the churches and of the cloisters for the support of the new schools.

Luther favored Latin schools. What kind of schools did Luther urge the towns to set up? The new schools were to be Latin grammar schools which would lay the foundation for professional study; first, to train for the ministry; second, to train for the other learned professions; and third, to train for the various civil positions in town and state. The schools must offer the boys a thorough knowledge of Latin, Greek, and Hebrew, with which they might clearly understand the Scriptures and the writings of the Church Fathers. Whether or not the students would become pastors did not matter greatly, for the study of these languages would help them to be better men. Religion and church music, also, were to form a large and important element in the curriculum of the new schools.

First school survey. Of far-reaching significance was Luther's appeal for a church-school visitation, or survey, of the principalities of Germany, in order to secure exact information in regard to conditions. In 1527, Luther himself took part in one of the first of these inspection tours, and he was profoundly moved by the dense ignorance and indifference, gross immorality and spiritual destitution which prevailed everywhere.

Causes of Luther's reaction. Meanwhile two other experiences aroused his deepest and bitterest antagonism. The first of these was the Peasants' War in 1524–1525, and the second was the Anabaptist movement.

It is an error to believe, as some writers have asserted, that Luther's emphasis several years earlier upon the doctrine of individual competency in spiritual matters, caused the revolt of the peasants. Popular discontent had been accumulating for a long time. There can be no doubt, however, that Luther's writings, so avidly devoured by the leaders of the lower classes in Germany, gave them renewed hope and confidence. Their long smouldering grievances burst into a bloody war in 1524. The demands of the peasants were modest indeed, and they were couched in such terms of Christian humility that even Luther was inclined to grant the justice of their claims. But the resort to armed conflict touched another spring of deep passion in the reformer, his immeasurable respect for civil authority. Passing by chance directly through the scene of conflict, he was aroused to the highest pitch of indignation and at once denounced the peasants in the fiercest manner.

Then another terror began to receive his censorious attention; this was the rise and rapid spread of Anabaptist doctrines. In Luther's eyes this heresy was even more wicked, and less to be tolerated, than the evils of the Roman Church. The more interesting is the whole situation when one recalls that these people were attempting to carry to their logical conclusion the very principles of individual liberty in religious affairs—as well as the right of everyone to interpret the Scriptures for himself—which Luther had espoused so enthusiastically a few years before.

These several experiences evidently produced a crisis in Luther's educational and religious views. He now turned quite positively to a confessional, or institutional, religion, and away from a simple reliance upon that experimental faith which had made him the courageous reformer of a few years earlier. Some quite positive alterations in his views on education came out of this crisis:

(1) Formerly he had demanded the free use of the Scriptures by everyone, young and old. "Should not every Christian," he cried, "be expected by his ninth or tenth year to know all the Holy Gospels containing as they do his very name and life?" This was written in 1520. After his contact with the Peasants' War and the Anabaptist movement, he came to believe that the free circulation of the Scriptures among the common people was a dangerous practice. He concluded that the masses were not capable of arriving at truth by the light of the Scriptures alone. Religious instruction must be definitely controlled by the church. To this end he wrote, in 1528–1529, the *Short Catechism* and the *Longer Catechism,* and required their use in place of the Scriptures. "The Catechism," he now declared, "is the right Bible of the laity; wherein is contained the whole sum of Christian doctrine necessary to be known of every Christian to salvation."[9] Henceforth, Luther confined the religious instruction of the common people and of children in the schools to the catechisms. Moreover, they were to be taught precept upon precept, line upon line, without the liberty of individual interpretation.

(2) In his earlier period Luther had proclaimed the thesis: "A Christian man is the most free lord of all, and subject to none." Later he adopted the view that every child must be taught the Lutheran confession only, and at least outwardly every man must conform to and profess the religion of his prince. *Whose territory, his religion* (*Cujus regio, ejus religio*) was the future policy. Though Luther was more tolerant than most reformers and Catholics of that bloodthirsty era, he never reached an attitude of genuine religious toleration.

(3) Another alteration of his views may be seen in his attitude toward the vernacular tongue. Before the change, Luther had advocated the use of German and the study of Latin, Greek, and Hebrew. After this period he restricted the use of German to home reading and to religious instruction. In

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[9] Eby, Frederick, *op. cit.,* p. 97.

the school plan of Saxony, written in 1528 by Melanchthon, the schools were specifically limited to teaching only in the Latin language. German and Greek were prohibited in no uncertain terms. Having assisted in its revision, Luther approved this plan. In his last great educational tractate, *On the Duty of Sending Children to School* (1530), he severely rebuked parents for sending their boys to the vernacular schools rather than to the classical schools, charging them with low, materialistic motives.

(4) Before the period of change, Luther had considered the church an independent organism, separate from the state and founded upon the Scriptures. Hereafter the church was more and more completely subordinated to the civil power. Luther regarded civil rulers as divinely commissioned to rule, not only in temporal, but in ecclesiastical affairs as well.

(5) Formerly Luther had desired every child to receive an education. Later his chief aim came to be to select the children of ability who might become leaders in church and state. All children were to receive religious instruction, but only the brighter ones were to go to the Latin schools.

State control and support of the schools. Luther's most significant innovation so far as Germany was concerned, lay in placing both the schools and the church under the immediate guardianship of the state, and in holding the civil authorities responsible for their establishment and support. Up to this time the Roman Church had clung to its authority over education with a mother's jealous care. Having reached the conclusion that the papal church was a usurper of power, Luther's profound reverence for authority led him to invest civil offices with all the sacred prerogatives and jurisdictions of divine sovereignty. In beginning the task of reforming the great abuses in the church, he had appealed to the princes and electors of Germany; it was their response and protection that saved him from repeating the tragedies of the earlier reformers, who were sent to the stake because of their efforts. He appealed to the princes on the ground that they derived their power and authority from God and were His representatives on earth. Furthermore, he held that they were as much responsible for the preservation of spiritual and cultural values as they were for the maintenance of order and security of life and property within their kingdoms. But his appeal involved the surrender of the ancient independence of the church and its subjection to civil authority. He thus debased religion to a subordinate position, and the pastors to the status of civil servants. Statecraft superseded priestcraft in the management of man, and the vast estates of church and monastery passed to the control of the secular princes.

In appealing to the authorities of the free towns, Luther followed the practice of the past; the independent cities of Italy had fostered academies, and practically all the Hanseatic towns of northern Europe had instituted both Latin and vernacular schools. Since the towns were more directly interested in the promotion of schools, they soon began their reorganization. The principalities, however, had to await a time of greater enlightenment and a deeper sense of paternalism on the part of the princes. In any case, Luther's action in giving the civil authorities the control of the schools was one of the momentous steps of this period. In doing so, he laid the foundation of state and national control of education throughout Germany.

Compulsory school attendance. Luther must be recognized as the first modern reformer to advocate compulsory school attendance. This idea he owed partly to the Old Testament and partly to the practice of the Turks. He insisted that it was the duty of municipal authorities and princes to establish schools or to require the people to do so; and he went so far as to demand that, for the sake of the state, the city, and the church, parents should be compelled to send their children to school.

He reached this conclusion as early as 1526, as the following letter to the Elector John of Saxony shows:[10]

> If there is a town or a village which can do it, your Grace has the power to compel it to support schools, preaching places, and parishes. If they are unwilling to do this or to consider it for their own salvation's sake, then your Grace is the supreme guardian of the youth and of all who need your guardianship, and ought to hold them to it by force, so that they must do it. It is just like compelling them by

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[10] Smith, Preserved, and Jacobs, Charles M., *Luther's Correspondence and Other Contemporary Letters,* Vol. II, p. 384. Philadelphia, The Lutheran Publication Society, 1918. See also Eby, Frederick, *op. cit.,* p. 85.

> force to contribute and to work for the building of bridges and roads, or any other of the country's needs.

Similarly, in the *Sermon* (1530), he was even more emphatically in favor of compulsory education:[11]

> I maintain that the civil authorities are under obligation to compel the people to send their children to school, especially such as are promising. . . . For our rulers are certainly bound to maintain the spiritual and secular offices and callings, so that there may always be preachers, jurists, pastors, scribes, schoolmasters, and the like. . . . If the government can compel such citizens as are fit for military service to bear spear and rifle, to mount ramparts, and perform other martial duties in time of war; how much more has it a right to compel the people to send their children to school, because in this case we are warring with the Devil. . . . The Turk does differently, and takes every third child in his Empire to educate for whatever he pleases. How much more should our rulers require children to be sent to school, who, however, are not taken from their parents, but are educated for their own and the general good, in an office where they have an adequate support?

This demand for compulsory education was based upon the public welfare. Educated children would make better civil servants, judges, doctors, preachers, and subjects. Naturally Luther could not have had in view the modern concept of enlightened voters. Yet, in holding up the ideal of the commonweal, he was leading the way to important future developments.

Home discipline. Luther received his views of education, as well as his views of doctrine, chiefly from the Scriptures, especially the Old Testament. He considered the Fourth Commandment, "Honor thy father and thy mother," as the foundation of all social order. He held that home training and obedience produced sound family life, and that good households were the foundation of good government in city, principality, and empire. In vigorous language he censured laxity in parental control and faulty methods of training. On the other hand, he frowned upon undue severity. In his childhood home he had suffered deeply from the harshness of his parents, yet, he held them in the highest respect and veneration through all his days. He loved his own children tenderly, and a more natural, happy family relationship can scarcely be imagined. There was nothing of the aloofness and frigidity of the Calvinistic home. The practice of home supervision by the church authorities, which Calvin instituted, was never suggested by Luther. Nevertheless, he regarded home discipline as the foundation of all institutional and social existence.

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[11] Painter, F. V. N., *op. cit.*, pp. 269–270; also Eby, Frederick, *op. cit.*, pp. 149–150.

Vocational training. In his letter to the authorities of the cities in 1524, Luther wrote of trade and vocational training as follows:[12]

> My idea is that boys should spend an hour or two a day in school, and the rest of the time work at home, learn some trade, and do whatever is desired.

Some writers find in this statement the origin of industrial training. A careful study of its significance does not warrant such a broad conclusion. All through the Middle Ages, children learned trades and crafts in the fashion that Luther advocated here. The revulsion of feeling against monastic and clerical life, combined with the passing away of charity and innumerable livings, had necessitated new means of earning a livelihood. The class of people who had formerly sent their children to school to fit them to secure these livings in religious vocations now turned their attention to practical arts and means of livelihood. It was notorious how few wished their sons to look forward to the uncertainties of life as pastors, teachers, or professional men.

In the *Letter to the Mayors and Aldermen of all the Cities of Germany,* Luther wrote:[13]

> Because selfish parents see that they can no longer place their children upon the bounty of monasteries and cathedrals, they refuse to educate them. "Why should we educate our children," they say, "if they are not to become priests, monks, and nuns, and thus earn a support?"

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[12] Painter, F. V. N., *op. cit.*, p. 199.

[13] Painter, F. V. N., *op. cit.*, p. 171; also Eby, Frederick, *op. cit.*, pp. 47–48.

This was written in 1524. Six years later he grew still more vehement. He ascribed the neglect of the schools to a new craftiness and cunning of the Devil. He berated parents who said "a knowledge of arithmetic and reading is enough, since we now have German books," and withdrew their children from the Latin school. He declared that "the common people are placing themselves in opposition to the schools, and wish to bring up their children without instruction other than that pertaining to their bodily wants." He thundered against these parents as "worshippers of Mammon," and as "Idolators," and charged that Satan was deluding them in order to keep people in ignorance.

Under the apprenticeship system, the practical arts were learned in the home. This movement for practical training came into conflict with the reëstablishment of the learned schools. In his statement on learning a trade, Luther merely tried to show that school work need not necessarily interfere with this practical training in the home. There is no evidence that Luther was looking toward the combination of learning and manual labor that was usual in monastic discipline, nor yet toward the introduction of arts and handicrafts into the schools, as in the movement which was just beginning in some of the progressive schools of the Netherlands. Luther merely tolerated industrial training at home, but objected when it interfered with sending boys to the Latin school.

Schools for girls. Luther strongly encouraged the education of girls, especially along religious lines. In 1520 he declared:[14]

> Would to God each town had also a girls' school, in which girls might be taught the Gospel for an hour daily, either in German or Latin! In truth, schools, monasteries, and convents were founded for this purpose, and with good Christian intentions.

Similarly, in 1524 he wrote:[15]

> In like manner, a girl has time to go to school an hour a day, and yet attend to her work at home; for she sleeps, dances, and plays away more than that.

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[14] Eby, Frederick, *op. cit.,* p. 41.

[15] *Ibid.,* p. 71.

It is easy to presume that in this reform Luther was advancing far beyond his contemporaries. Such, however, was not the case. Unquestionably, Luther accorded woman a higher status than she had previously occupied in civilization, but the education of girls of the upper classes had long been in vogue. As he himself stated, the convents had been established for that very purpose. Moreover, some few schools for girls had long been in operation in the larger towns.

Subjects of instruction. What was to be taught in the elementary schools that Luther desired to establish? Primarily, religion, but a number of other subjects as well. His elementary curriculum is summed up in the following sentence:[16]

> I would have them learn not only the languages and history, but also singing, instrumental music, and the whole course of mathematics.

Religion. At first Luther was emphatic in a demand for the use of the Scriptures themselves, as his *Address to the Nobility* (1520) declares:[17]

> Above all, in schools of all kinds the chief and most common lesson should be the Scriptures, and for young boys the Gospels. . . . Should not every Christian be expected by his ninth or tenth year to know all the Holy Gospels, containing as they do his very name and life?
>
> Where the Holy Scriptures are not the rule, I advise no one to send his child. Everything must perish where God's Word is not studied unceasingly.

Again, four years later he wrote:[18]

> It behoves Christians at all times to use the Bible as their only book.

But his insistence upon the Scriptures did not continue; later he prescribed the use of the catechisms. For moral instruction he translated Aesop's fables, which he considered next to the Scriptures in importance. Religious instruction, which was chiefly in the vernacular tongue, included preaching, prayers, catechism, reading of the Scriptures, and music.

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[16] Painter, F. V. N., *op. cit.*, p. 198; also Eby, Frederick, *op. cit.*, p. 70.

[17] Eby, Frederick, *op. cit.*, pp. 41–43.

[18] *Ibid.*, p. 65.

Latin. Instruction other than religion was to be in the Latin language. Luther considered the study of this language in the elementary schools as absolutely indispensable. All boys, regardless of their future needs, were to study Latin in order to secure the elements of culture.

History. It was natural in this age, when men had rediscovered the ancient world with its literary and other treasures, that the study of history should be emphasized. To the Protestant reformers, the study of history was of great significance in combatting the claims of the Roman hierarchy; but it was as a means of understanding human nature, morals, and the growth of institutions that Luther recognized history's greatest value. "Historians," he declared, "are the most useful of men, and the best teachers." At another time he said: "How I regret that I did not read more poetry and history and that no one taught me in these branches."

Music. No educator since Plato had ascribed a higher educational value to music than did Luther. Before the Reformation all church music was in the Latin language. One of Luther's first movements for reform was the creation of a vernacular hymnology, so that the people might participate in the service of the church in a language they could understand. He wrote a number of hymns in the German tongue, and urged his friends who had poetic talent to do likewise. The first German hymnal was printed under his direction in 1524. Religious music henceforth became one of the chief interests of all German schools; for several centuries the school provided the choir for all church services. In his exalted love of music and his desire for its inclusion in the school curriculum, Luther was superior to the other reformers. To him may be attributed the fact that German education has been famous for producing a people with a universal passion for music.

Reform of higher instruction. Luther has been severely condemned by some as an obscurantist opposed to the highest culture, but he has been as greatly extolled by others as an advocate of learning. His contemporary, the prince of all European Humanists, Erasmus, made the charge: "Whereever Lutheranism prevails, culture and learning perish." Many later authorities, both Catholic and Protestant, have taken the same critical attitude.[19] Among the more recent, Janssen elaborates the charge at length. Luther denounced the universities as "dens of murderers," "temples of Moloch," and "synagogues of corruption." In a sermon preached in the year 1521 he actually declared:[20]

> The Universities were only worthy of being reduced to dust; nothing more hellish or devilish had ever appeared on the earth from the beginning of things, or ever would appear.

Never before or since have higher institutions of learning been so reviled. Nor was that all; Luther went further and even attacked the rational nature of man which produced the need for universities. No words were too scathing to denounce natural reason and its representatives, Aristotle and the Scholastics who had cruelly duped and misled the people to their spiritual ruin.

The cause of Luther's extreme bitterness against rationalism may be readily explained. For years he had sought inner peace of soul by the study of rationalistic theology and scholastic science taught in the schools; but all was in vain. Finally, through reading the Scriptures, he reached a sense of divine forgiveness and peace. Here, then, was his first great grievance: Reason had been a false guide. Again, the employment of reason by certain sects in their interpretation of the Scriptures intensified his distrust. Hence he called reason, "the Devil's bride or harlot," who "should be trampled underfoot or have dirt thrown in her face to make her the more hateful."

Though he regarded the universities as "Schools of Satan," he did not agree with the large body of common people who wished to abolish the universities entirely. On the contrary, Luther exerted every effort to reform their discipline and courses of study; for, in spite of his violent denunciation, he felt that the universities had an important service to perform.

University studies. To the higher schools he would send "only the aptest pupils." Here, scholars were to "train men of good understanding in the Scriptures, who wish to become bishops and priests, and to stand at our head against heretics and the Devil and all the world."

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[19] Among such critics may be cited: John I. von Döllinger, *Die Reformation,* Vol. I, p. 422, Regensburg, Manz, 1851; and F. Paulsen *Geschichte des gelehrten Unterrichts*, Vol. I, pp. 182–184. Leipzig, Veit and Company, 1896–1897.

[20] Janssen, Johannes, *op. cit.,* Vol. III, p. 355.

As in other matters, so in his attitude toward the various learned studies, he was positive and he expressed his views in vigorous terms. Most of the works of Aristotle and those on scholastic philosophy he vehemently rejected as "Satanic filth." He was tolerant only of Aristotle's logic, rhetoric, and poetry. He differed from Melanchthon, who believed in astrology, but he denounced canon law and called for its complete abolition. He concluded that the study of civil law should be reformed. The theological courses were to be drastically changed. At one time he called for a decrease in theological literature, and said: "Teach the Scriptures and nothing else." He never expressed an interest in humanistic literature, and, even as a student at Erfurt, the German center of the movement, he did not belong to the circle of the new learning. Nevertheless he strongly advocated the study of the ancient languages: Latin, Greek, and Hebrew; but only for the aid they might contribute to an understanding of the Scriptures. Like all the reformers, he agreed that these languages were indispensable for the exposition of the Scriptures. No one who could not read the Scriptures in the original tongues could qualify for the pastoral office. Conceptions either of free enlightenment or of preparation for independent thinking he never entertained.

After his attack upon the papal hierarchy Luther soon found the churches without pastors and teachers, and few students preparing for the duties of civil life. To train people for these positions was his supreme aim for the Latin schools and the universities. On the whole, however, Luther was not a scholarly influence so far as the progress of secular culture and science was concerned.

Popular vernacular education. A critical investigation reveals little evidence that Luther desired popular elementary education as one understands the term today. In all his arguments for education his chief point was to establish the necessity of the Latin school as *the* institution of learning, in opposition to the vernacular common school. He dwelt exhaustively upon the value of the learned languages. He called upon the civil authorities to suppress the vernacular private schools. He subscribed to the Saxon school ordinance of 1528, which prohibited the teaching of German and Greek. He pleaded that all boys be compelled to attend the Latin schools, in order that Germany might be provided with a sufficient supply of learned men. Even the boys who proved less promising were to learn at least to understand, read, and write Latin. For this he gave a rather lame excuse: [21]

> If such a boy who has learned Latin afterwards works at a trade, you will have him in reserve, to labor as a pastor in case of need; and such knowledge will not interfere with his gaining a livelihood and will enable him to govern his house all the better.

Luther proposed that the gifted youth be selected for advanced education. In writing to the Margrave George of Brandenburg, he suggested:[22]

> It is well that in all towns and villages good primary schools should be established out of which could be picked and chosen those who are more fit for the universities, out of which the men can then be taken who are to serve your land and people.

Subsequent events were in line with Luther's proposals. Throughout the later decades of the 16th century, the vernacular common school was often suppressed, on the contention that it took boys away from the Latin schools. Sometimes it was tolerated, but it always remained strictly subordinate to the classical school. Had Luther been a strong advocate of popular vernacular education, one is constrained to believe conditions would have developed quite differently in Germany.

It must be recognized, however, that indirectly Luther made weighty contributions to the cause of popular enlightenment. (1) He included all children in his plans for vernacular religious instruction—rich and poor, high-born and low, girls and boys—although he had in view the training of the young only in obedience to constituted authority and in conventional religious and moral precepts. The children were to be taught a formulated system of instruction embodied in the catechisms. (2) While the Elector Frederick sheltered him temporarily, in Wartburg Castle, to save him from his enemies, Luther began the translation of the Scriptures into the High German dialect. This task continued for a number of years until it was finally completed. No other thing which Luther ever did contributed so profoundly to the real education of the German people. His was not the first translation, but it was a translation in which not merely the sense, but something of the beauty and force of the original Scriptures was transferred to the German. By this work he raised High German from a mere dialect into a permanent language of power and classical beauty, and gave the German peoples a unifying bond. (3) Furthermore, his translation of Aesop's fables had a remarkable influence. But next to his translation of the Scriptures, nothing he did had so profound an influence on German education as his catechisms. (4) In his break with Rome he had assumed a stand which favored popular emancipation and enlightenment. Even in his reactionary role he could not dam the tide that, as a liberal reformer, he had set in motion; and this flood was soon beyond his control. The liberalizing forces found other advocates, and, though driven to shelter temporarily, they were to emerge in later decades and under more favorable circumstances.

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[21] Painter, F. V. N., *op. cit.,* p. 235; also Eby, Frederick, *op. cit.,* p. 122.

[22] Smith, Preserved, and Jacobs, Charles M., *op. cit.,* Vol. II, p. 487. Eby, Frederick, *op. cit.,* p. 99.

It is, therefore, a misinterpretation to credit Luther with the creation of popular elementary schools, as some writers have done. His contribution was substantial, to be sure; but the vernacular common school had its real origin elsewhere, among people of broader, deeper, and more tolerant sympathies. As a matter of fact, both among the Moravians and in the Netherlands, vernacular elementary education in Luther's day had progressed far beyond his conception of it.

Summary of Luther's educational contributions. In a brief summary of Luther's services, the following points are to be noted:

(1) He was the first educator in Germany to advocate universal education for all children: the poor as well as the rich, the low-born as well as the noble-born.

(2) He advocated the education of girls as well as boys, so far as elementary and religious training were concerned.

(3) He believed in schools organized, supported, and con-

trolled by the state. This was a new conception so far as Germany was concerned.

(4) He emphasized anew parental obligation in training, and showed the relation of home discipline to civil and social order.

(5) He recognized physical training as a part of general education.

(6) He advocated that pleasant methods of instruction supersede the harsh and cruel methods of the past.

(7) He insisted that religious training be recognized as the basis of popular education. This program was to include music, the catechisms, and church attendance; and religious instruction was always to be in the vernacular language.

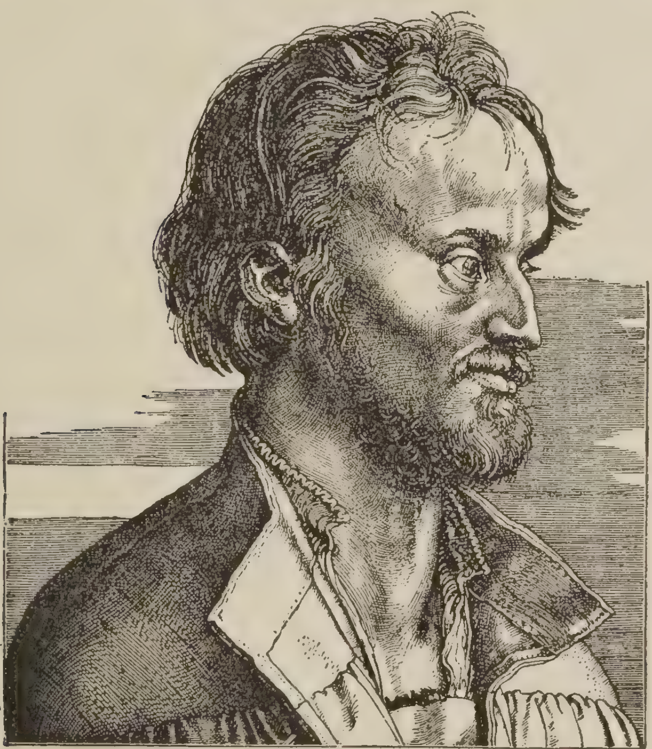
(8) His greatest services in other lines were: (*a*) the translation of the Bible for the common people; (*b*) the compilation of the catechisms and the translation of Aesop's fables; (*c*) the instigation of school inspections, which took place everywhere in Germany and produced numerous school ordinances.

2. Melanchthon

Life and training. Philip Melanchthon was the ranking scholar of the Reformation period in Germany. On the Continent, in breadth of erudition he was second to Erasmus, prince of Humanists. His vast attainments and profound influence on German culture won for him the immortal title of *Praeceptor Germaniae.*

Melanchthon was born in 1497 at Bretten, near Pforzheim. His family was intelligent; he counted John Reuchlin, the renowned Hebrew scholar, as his maternal uncle. Philip was extremely precocious, taking his bachelor's degree at Heidelberg at the age of fifteen. After a short period at the University of Tübingen, he was invited to become a professor at the University of Wittenberg, where Luther was just beginning his efforts for reform of the church. The two became intimate associates and labored together for the reform of church and school until Luther's death.

In actual learning, in command of languages, and in knowledge of theology and of school curriculum and organization, Melanchthon surpassed the great reformer; he was lacking, however, in Luther's originality, profound conviction, indomitable courage, and capacity for leadership. Melanchthon was, rather, the erudite, retiring scholar, with a strong tendency toward pedantry. His fame rests upon the five outstanding contributions which he made to the reconstruction of education on a Protestant foundation.



PHILIP MELANCHTHON.

1. Plan for the establishment of a school system. Melanchthon took a foremost part in the church-school survey, or inspection, during 1527–1528, in Thuringia and Saxony. As a result of this investigation, he wrote the Saxon church-school ordinance, or code, which was the first of many such ordinances issued in German cities and states throughout the 16th century. The Saxon plan was revised and approved by Luther, and was also published with his works. According to this plan, the obligation to establish and maintain schools was squarely placed upon the civil authorities. Such a policy reversed the Catholic practice of control by the church, but it was in accord with successful school organization in the Netherlands and Italy.

As stated by this ordinance, the chief purpose of the schools was to prepare men for ecclesiastical and civil offices. Melanchthon felt nothing but contempt for the popular vernacular schools. He regarded Latin as the only language suitable for instruction and learning; in fact, German was expressly forbidden by this ordinance. Greek, too, was excluded from the elementary or preparatory school, though it was to be studied in the university. The ordinance states emphatically: [23]

> Schoolmasters shall look to it diligently that children learn only Latin, and not German, Greek, or Hebrew. So many languages at once are not merely useless but detrimental.

According to this plan the schools which were to be established in every town would consist of three grades or groups of pupils. The first group was for beginners, who were to learn to read Latin. Their first instruction consisted of the alphabet; then *Donatus,* a simple grammar, was used; and later, Cato's *Disticha de Moribus,* a collection of wise sayings. The teacher read one or two verses from this last book daily and explained in Latin the meaning of the words. The pupils were required to memorize lists of words and sentences, in order to secure a large vocabulary as quickly as possible. This method of teaching the unknown by the incomprehensible was considered very superior. In addition to such grammatical and moral instruction, religion also was taught in Latin and learned by heart. Singing in Latin by the entire group formed a most important part of the daily program. Religion and music were continued throughout the entire course of the school.

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[23] Melanchthon was particularly fond of Greek, and the Greek grammar which he wrote when only sixteen years of age was long used. His exclusion of all languages except Latin was probably due to the lack of success in teaching all these languages in the new gymnasium at Nuremberg, with the founding of which he had most to do. For the text of the Saxon school ordinance, consult: Barnard, Henry, *German Teachers and Educators*, pp. 169–171, Hartford, Brown and Gross, 1878; also Eby, Frederick, *op. cit.*, pp. 180–187.

In the second class, or group, which like the first was planned to extend over several years, Latin grammar was exhaustively studied. Aesop's fables, *The Colloquies* of Erasmus, the comedies of Terence and Plautus, and similar works were read and explained in minute grammatical detail, and practically every one of them was memorized.

The third group, or class, took up more advanced linguistic studies. By this time, though still a child, the boy was expected to be fairly well able to speak, read, and write Latin. Now he was to acquire a more classical vocabulary and become thoroughly versed in the Latin tongue and literature. Virgil, Ovid, and Cicero were the chief authors, and they were to be acquired in detail. Exercises in rhetoric, in addition to some study of logic, were also required.

This Saxon plan was not entirely original with Melanchthon, but his great influence led to its general adoption throughout Germany.

2. Adviser on school reorganization. Melanchthon was frequently called upon by town authorities for advice in the reorganization of their schools. Nuremberg called him in 1526 to become rector of its new gymnasium, a position which he declined. Two men whom he recommended were appointed to the faculty. In other instances also, when he declined important educational appointments, he helped institutions to find teachers. In the early period of Protestant reconstruction, no man was so much sought after as Melanchthon, to guide in the refounding of the municipal Latin schools.

3. Prolific writer of textbooks. In 1513, while still a boy himself, Melanchthon wrote a Greek grammar for other boys. In 1525 he wrote a Latin grammar which, during the following ten years, was printed fifty-one times, and was adopted in Catholic as well as in Protestant schools. In 1519 he wrote a text on rhetoric, and in 1520, one on dialectic—both of which were widely used. He wrote not only on these subjects, which composed the trivium of the Middle Ages, but also, though not so exhaustively, on the quadrivium: arithmetic, geometry, music, and astronomy. The great merit of these various texts was, not the originality of their materials, but rather their better order and treatment. Melanchthon was preëminently a schoolmaster with singular clarity of mind, and this faculty enabled him to bring these subjects down to the comprehension of young boys.

4. Influence on higher education. Melanchthon labored most of his life at the University of Wittenberg, where at one time or another he was called upon to teach almost every subject. His profound and extensive learning made him the leader in the transition from the methods and curriculum of Scholasticism to the newer methods and curriculum of Protestantism. While the most extensive changes took place in the field of theological study, it is well to remember that law and philosophy also underwent profound alterations. The Protestant universities of Germany were all more or less transformed by the work of this quiet scholar.

5. Influence of his scholarship. The influence of Melanchthon was spread throughout Germany by the students whom he taught. He was extremely popular as a lecturer, and deeply beloved. The most illustrious of his pupils was Michael Neander (1525–1595), who conducted the famous cloister school at Ilfeld, in Thuringia, for forty-five years. A second was Valentin Trotzendorf (1490–1556), who for twenty-three years was rector of the school at Goldberg, in Silesia. These two are the most renowned of his followers, but the list ran into the thousands.

Paulsen sums up the greatness of Melanchthon's services to Germany in the following statement:[24]

> When Melanchthon died there was probably not a city in Protestant Germany in which some grateful student did not mourn the loss of the *Praeceptor Germaniae*. And long after his death he controlled, through his method and text-books, the instruction in the Protestant schools and Universities. It was primarily due to him that the Protestant half of Germany won the ascendency over Catholicism in the realm of education and culture. There can be no doubt whatever about the final outcome: German philosophy and science, German literature and culture grew up in the soil of Protestantism, and they may be described as the result, although perhaps remote, of that spirit of freedom and independence of thought which the Reformation called into being.

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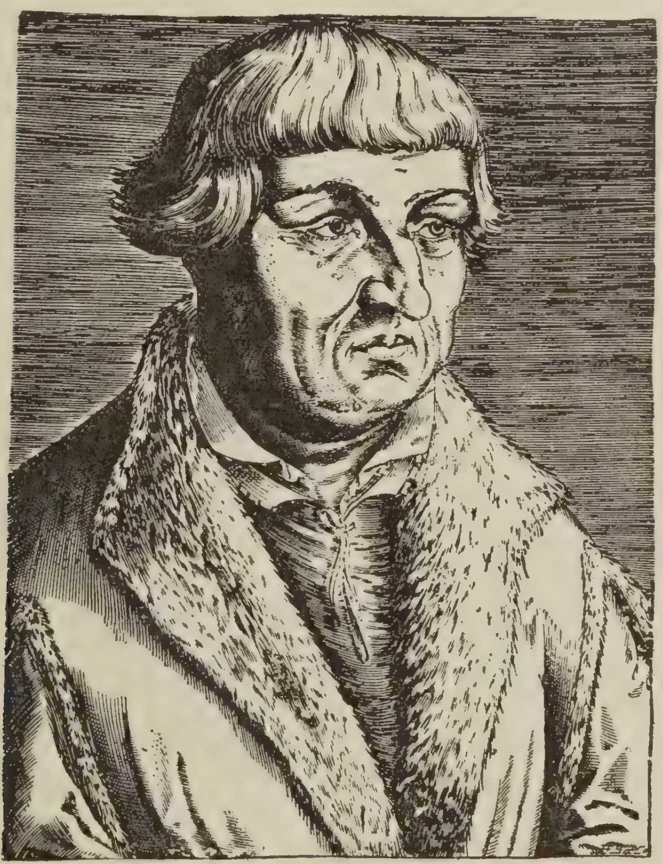
[24] Paulsen, F., *The German Universities and University Study,* p. 33. Translated by Frank Thilly and William W. Elwang. New York, Scribner, 1906.

3. BUGENHAGEN

The movement for the reorganization of schools in Protestant Germany was promoted by two other notable educational leaders, Johannes Bugenhagen (1485–1558) and John Sturm. Each of these men must be credited with making a special contribution to the progress of education.



JOHANNES BUGENHAGEN.

Bugenhagen was at once town preacher and university professor at Wittenberg. He came from northern Germany, and it was in the northern towns and principalities that he exerted the greatest influence. He is honored chiefly as the practical reformer of the Lutheran Church, possessing, as he did, a larger capacity for organization than his more renowned colleagues, Luther and Melanchthon. In 1528 he formulated the church and school ordinance for the town of Brunswick; this was followed by similar ordinances for a number of the other northern towns—such as Hamburg, Lübeck, Bremen—and also for the leading principalities of northern Germany and the Kingdom of Denmark.

The opening words of this Brunswick school ordinance indicate Bugenhagen's deep interest in education: [25]

> Above all, three things are deemed necessary. First, to establish good schools for children. Second, to engage preachers who will proclaim God's Word in its purity and who are able to lecture and explain the Scriptures in Latin. Third, to organize charity.

Such, in his view, were the principal functions of the reformed Christian church.

The educational provisions of these codes, or ordinances, emphasized the Latin schools and religious instruction; some of them, however, also made provision for public libraries and courses of public lectures. Bugenhagen went further than his colleagues in placing great stress upon elementary reading and writing schools in the vernacular tongue. Moreover, his plans of organization always included separate schools for girls.

Bugenhagen's schools were in reality only reorganizations of the reading and writing schools which had been set up in the Hanseatic towns long before this. Down to this time they had been schools of a purely practical character, designed to furnish boys of the commercial class with the tools of learning. Formerly the church had exercised a certain degree of authority over them, in the employment of teachers. They were now reëstablished by the town councils, and the teachers were appointed by the councils which controlled them. These schools were to be supported from fees paid by the parents. The new feature of great importance, however, was that the teachers were to receive, from the general municipal treasury, a present or bonus for teaching catechism, religion, and church music. In this manner the old community school, sanctioned by the town authorities, was now linked up with religious instruction, and was on its way as the elementary school of the common people. However, everywhere throughout Germany, and especially by most of the Reformation leaders, this elementary town school was considered an unimportant venture—a makeshift wholly subordinated to the Latin school. One must look elsewhere for the influences which were finally to elevate this elementary town school to the state common school system of the present day. Yet, notwithstanding the attitude of his contemporaries, Bugenhagen nevertheless deserves the credit for taking one of the most significant steps in this evolution of the vernacular school.

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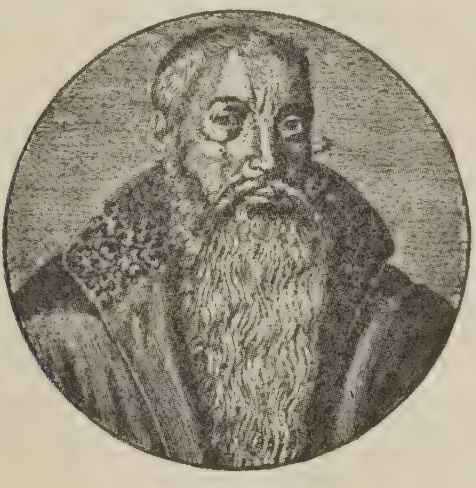
[25] Ruccius, Walter M., *John Bugenhagen Pomeranus,* pp. 61–62. Philadelphia, The United Lutheran Publication House, 1916.

4. JOHN STURM: FOUNDER OF THE CLASSICAL GYMNASIUM

John Sturm was the organizing genius of Humanism in northern Europe. Of all the educators of his time, he visualized most clearly the precise aim of classical instruction, firmly grasped its methods and curriculum, and understood the form of organization which gave promise of achieving the results desired by the new age. Of all the schoolmasters beyond the Alps, Sturm was most infatuated with the Ciceronian ideal, which was dominant in Italy at this time. More than any



JOHN STURM.

other of the educational reformers, he established the standard for the new classical gymnasium for Protestants, just as the Jesuits did for Catholics.

Life and training. John Sturm came into the world at Schleiden, a village near Cologne, in the year 1507. His father was steward to Count Manderscheid, and Sturm's early training was received in the home with the sons of the count. For several years after he was fourteen, he attended the famous school of the Brethren of the Common Life at Liège, Belgium. It was probably his experience in this institution which furnished the educational principles and form of organization that he later embodied in his famous gymnasium at Strassburg. Leaving Liège, he studied at the celebrated University of Louvain in the Trilingual College, established by Erasmus. It was through the inspiration he received from the professor of Latin here that Sturm acquired the ideal of Latin eloquence which was to form the dominant feature of his educational program. Here, too, he taught Latin for some time and, following the practice of the Brethren, set up a printing press from which Latin and Greek texts were issued for the students in the university.

In the year 1529, Sturm went to the University of Paris to sell his books, but remained to study and to teach. As fate would have it, he reached Paris about the time that the French King was establishing the College of France, designed especially for the promotion of the study of Latin and Greek. Sturm became an instructor in this institution and also began to publish editions of classical authors. Among his pupils was young Peter Ramus, who years later declared: [26]

> It was in the lessons of this great master that I first learned the use of logic and then taught it to the youth in quite a different spirit from the sophists, relegating to them their furor for disputation.

Having embraced Protestantism through his friendship with Martin Bucer, who combined in a rare manner evangelical fervor and humanistic culture, Sturm was led to accept a call to Strassburg in 1537. The following year he was made rector of the newly founded gymnasium. Here, for over forty years, he was the most renowned schoolmaster of the time.

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[26] Graves, F. P., *Peter Ramus and the Educational Reformation of the Sixteenth Century*, p. 17. New York, Macmillan, 1912.

Aim of education. No educator has conceived a more clear-cut aim for education than that set up by Sturm for his pupils; and none has excelled him in skillful adaptation of the means for the realization of his purpose. A man of iron will, he knew exactly what he wanted and the way to get it. He wrote: [27]

> The end to be accomplished by teaching is three-fold; embracing piety, knowledge and the art of speaking. . . .
>
> Knowledge and purity and elegance of diction, should become the aim of scholarship, and toward its attainment both teachers and pupils should sedulously bend their every effort.

So far as piety is concerned, that should belong to every man; but eloquence should be the distinguishing acquirement of the cultured man. True eloquence, furthermore, is possible only in the Latin tongue and must accord with the Ciceronian manner, verbiage, and phraseology. Sturm was deeply grieved that children did not learn Latin as their mother tongue, and he bewailed the handicap which was thus placed upon them. He bitterly lamented the situation: [28]

> Cicero was but twenty years old when he delivered his speeches in behalf of P. Quintius and Sextius Roscius; but, in these latter days, where is the man, of fourscore even, who could bequeath to the world such masterpieces of eloquence? And yet, there are books enough, and there is intellect enough. What, then, do we need further? I reply, the Latin language, and a correct method of teaching. Both these we must have, before we can arrive at the summit of eloquence.

To supply these two deficiencies, Sturm used every resource and all the industry at his command.

The gymnasium.[29] The town council of Strassburg maintained in the different sections of the town three inefficient, struggling Latin schools, with 140, 80, and 56 pupils, respectively. Invited in 1537 to make a survey, Sturm recommended that these separate schools be united into one consolidated institution. Up to this time the reorganization of German schools had largely followed the ineffectual plan proposed by Melanchthon. Pupils had been divided into three groups, with a teacher for each; and every individual within the group was permitted to advance at his own pace. For this loose arrangement Sturm substituted the plan of Liège, where each class had its own teacher and carefully graded instruction. This reform was deeply significant; it was similar to the change, made in later days in America, from the ungraded to the graded school.

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[27] Barnard, Henry, *op. cit.*, p. 195.

[28] *Ibid.*, p. 197.

[29] The use of this term for the classical school did not originate with Sturm; it had been in vogue in Italy and the Netherlands long before this time, but the dominating influence of Sturm's school stamped its use upon German education.

Ten classes were originally projected, but for many years the school had only eight classes in operation. There followed this preparatory work a college or university course of five years. Boys entered the school usually in their sixth year; but if they were exceptionally bright, they could enter a year earlier. Each class had a definite objective, and the work to be accomplished during the year was set down with the detail of a modern course of study. Similarly, the instructional methods and devices to be followed were definitely formulated for each teacher in the institution. In fact, Sturm discussed in a masterly way questions of practical pedagogy in the management of a school, and also wrote texts for some of the classes.

Curriculum. The course of study for the gymnasium was as narrow as his aim was definite. It included religion, the Greek and Latin languages and literatures, and logic; but all these subjects were in one way or another merely contributory to the supreme end, which was the acquisition of a genuine Latin eloquence.

Religion. The elementary classes were to learn Luther's catechisms by rote. This was almost the sole recognition of the vernacular tongue. In the middle grades, the catechisms were translated into Latin, and some works of piety were read. In the upper classes, the Epistles of Paul were read and explained in Greek and Latin, and then translated from the one language into the other. All this instruction was confined to Saturdays and Sundays; throughout the week singing of the psalms in Latin or Greek was the only recognition of religion. One must conclude from these facts that religion was not greatly esteemed by Sturm, but was utilized chiefly as a help to the study of Latin.

Curriculum in outline. In 1565, Sturm set forth the details of instruction in his *Classic Letters* (*Epistolae Classicae*), written for the guidance of his teachers. By this time the school was divided into ten classes, and the course of study, in outline, was as follows:

Tenth Class. The alphabet, reading and writing simple Latin; Latin declension and conjugation; the German catechism.

Ninth Class. The pupil committed to memory a few Latin words each day, so as to acquire a vocabulary. This was to be done systematically: each pupil was to make a small dictionary of related words. He was also to be thoroughly grounded in declining and conjugating Latin nouns and verbs.

Eighth Class. Vocabularies of words in common use were enlarged as in the former class. Pupils were grounded in the eight parts of speech. They read the selected letters of Cicero, with constant study of the grammatical construction of the language. Exercises in style now began to take the place of the vocabulary exercises.

Seventh Class. Latin syntax as exemplified in the daily reading of Cicero's letters; exercises in style. On Sundays, translation of the catechism into classical Latin.

Sixth Class. The longer letters of Cicero were translated into German; Greek was commenced. A greater elegance in Latin style was sought. Saturday and Sunday the catechism and pious literature were translated into Latin.

Fifth Class. Poetry was studied; scansion, varieties of metre and verse; mythology; Cicero's *Cato* and *Laelius*, and the *Eclogues* of Virgil. Their encyclopedias of Latin words were completed; Greek was continued; style was more thoroughly cultivated, and versification begun. Passages of great elegance were translated into German and then back into Latin, extempore; the Epistles of Paul were translated in this manner on Saturday and Sunday.

Fourth Class. The study of Latin and Greek grammar was now completed; the pupils could speak these languages; Cicero's *Oration against Verres* and Horace were studied, and Greek was continued. Daily practice in style, reviews, and Paul's Epistles.

Third Class. Rhetoric was begun—based, in Latin, on Cicero's speech for Cluentius; and, in Greek, on Demosthenes. The first book of the *Iliad*, and that of the *Odyssey*. Greek orations were translated into Latin, and from Latin into Greek. The odes of Pindar and Horace were changed into a different metre. The comedies of Plautus and Terence were acted. Style was incessantly practiced and improved.

Second Class. The scholars themselves now interpreted Greek poets and orators; the same was done for Latin authors. Logic and rhetoric were studied. This latter subject was illustrated by passages from Demosthenes and Cicero. Daily exercises in style and the writing of short dissertations were given. Plays of Aristophanes, Euripides, or Sophocles were studied and acted.

First Class. Logic and rhetoric were further studied, and their rules applied to Demosthenes and Cicero. Virgil and Homer were to be completed. Thucydides and Sallust were to be translated in writing.

In evaluating this curriculum, it is essential to note what it omitted. There was little or no mention of mathematics, geography, history, natural philosophy, or astronomy. German was used only slightly in the earlier grades, but no systematic instruction whatever was given; nor was any other modern language studied. Attention was never focused upon what was said, but only upon the manner of saying it. Even Greek, religion, the dramatization of plays—in fact, the entire round of school work—were utilized for the realization of one supreme end—the acquisition of pure, fluent Ciceronian eloquence.

Sturm's historical importance. The success of Sturm's school was phenomenal. Its enrollment reached several thousand students, for all northern Europe sent boys for him to train. The nobility were amply represented. At one time, two hundred noblemen, twenty-four counts and barons, and three princes were enrolled. But the historical importance of Sturm's efforts was even more striking. His advice in the reorganization of schools was widely sought. Princes and kings as well as celebrated scholars paid him honor. His former pupils were among the "men of mark" throughout northern Europe. They carried his ideas far and wide; one of them drew up the Würtemberg school ordinance of 1559, and this was copied in Saxony and elsewhere. The English schoolmaster Ascham corresponded regularly with him, and paid a high tribute to him in *The Schoolmaster.* For several years John Calvin lectured in the Strassburg college along with Sturm, and considerable similarity can be found between Calvin's gymnasium, established in Geneva in 1559, and the Strassburg institution. Because of the great similarity of organization and curriculum, it has been held that the Jesuits borrowed their school plans from their Protestant fellow-humanist. It is more probable, however, that both drew ideas from the same source, the schools of Liège and Louvain.

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CHAPTER IV

PROTESTANT SCHOOL REFORM (*Continued*)

School Reorganization in Western Europe

National and sectarian differences. During the Middle Ages, education was substantially the same everywhere in western Europe. With the Nordic revolt, sectarian as well as national differences appeared, and it is now necessary to consider the development of education for the various groups and countries separately.

The schools of the Netherlands did not suffer any violent transition, for they had long been under the control of the city authorities and the change to Protestant education was easily effected. In Germany, on the other hand, when the old system of schools, controlled entirely by the church, suddenly declined, a radical reconstruction was necessary through the initiative of the city and state governments. In England, neither the church nor the state took the initiative in educational reform, and progress, dependent on private enterprise, was necessarily slow. The Scottish Church, in accordance with its Calvinistic policies, early set in motion plans for the reorganization of schools, but for some time it did not have the full coöperation of Parliament. France—except for the Calvinistic Huguenots—and other Catholic lands came under the control of the newly established Society of Jesus. Switzerland was largely influenced by the school which Sturm established at Strassburg. A more detailed review of the progress of schools in each of these countries will now be given.

1. REORGANIZATION IN GERMANY

Early reorganization of the municipal schools. Humanism had begun to gain an entrance into a few of the town schools of Germany during the first decades of the 16th century. But the onset of the revolution produced an actual disorganization of schools everywhere. The first efforts at reconstruction came in response to Luther's appeal to the mayors and aldermen of the cities in 1524. In that very year Magdeburg consolidated several parish schools into a new Protestant institution. Several other cities at once took similar action. Eisleben and Nuremberg followed the next year. In most of these cities, Melanchthon was invited to direct the plans for reorganization, and in harmony with his views all of the new foundations were Latin grammar schools. A decided advance was effected by the publication of the Saxon school plan in 1528. It will be recalled that this plan came as the result of the church-school survey which had been made the previous year. That same year Bugenhagen reorganized the schools of the towns of Brunswick and Hamburg. Then followed Lübeck in 1530–1532, and Copenhagen, Denmark, in 1536–1537. Meanwhile Wittenberg, the headquarters of the Lutheran movement, took action in 1533.

The cities reorganized by Bugenhagen followed in most details the Saxon school plan of 1528. There were, however, important differences. (1) The curriculum was not restricted to Latin, for the elements of Greek and Hebrew were to be learned after the students had acquired some proficiency in Latin. (2) Furthermore, in all these towns, German reading and writing schools for boys were to be established, and the private schools—that is, the *hedge* schools (*Winkelschulen*)—were to be suppressed. Similarly, vernacular schools for girls were also to be conducted. (3) Another interesting feature was the *lectorium*, a sort of preliminary or popular university course where lectures on theology, law, and medicine were given free to everybody who desired to attend.

In western Germany the religious reformers were likewise interested in the reorganization of education. In 1524, Martin Bucer, the most noted reformer of Strassburg, approached the magistrates with a plan for a system of free schools. The money for their support was to be derived from the revenues of the former religious orders, for Bucer believed that by right these revenues should be used for the aid and education of the poor and not for the expenditures of the town government. Several Latin schools were organized, as well as elementary schools in which reading and writing of German, catechism, and music were taught. From these efforts there was destined soon to arise a most renowned institution which, because of its extensive influence, was treated in detail in the preceding chapter.

The Strassburg gymnasium. Strassburg, the famous city of Alsace, became the leading center of educational progress in the 16th century. The geographical crossroad between Germany, France, Switzerland, and the Netherlands, Alsace has always been the cockpit of Franco-Prussian conflicts. At this time the tolerant spirit of the authorities and the irenic Bucer made Strassburg not only the chief refuge for exiles of all groups, but also the center of cultural progress. In 1535 a preliminary survey of the schools showed three inefficient public Latin schools with only a small enrollment in each.[1] As a result of a resurvey, a consolidation of the schools was proposed; the resulting institution, which was established by the celebrated John Sturm, became the chief model for Latin schools everywhere.

Municipal support and control of schools. One of the foremost facts about the early Protestant schools was that they were established and controlled by municipal authority. In the accomplishment of this purpose, in many instances the city councils took over the property of the church. In this way buildings were provided and, to some extent, means of support were furnished. For example, in 1525 the property of the church in Weimar was placed under the control of the city council, and revenues therefrom were used to pay the teachers. Such action became general throughout the towns of Saxony. The teachers in the Latin schools were paid out of the city treasury. Generally, a small fee for tuition was charged and collected by the city officers. Special efforts were made, however, to provide free instruction, and often the entire living was supplied for poor boys who had exceptional ability in learning. Nothing was more admirable throughout the history of early Protestant education than the frequent and insistent emphasis upon the discovery of gifted youths, and provision for their free education.

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[1] Paulsen, F., *Geschichte des gelehrten Unterrichts,* Vol. I, p. 282. Leipzig, Veit and Company, 1896–1897.

Vernacular town schools. In some towns, higher fees were to be charged in the new German reading and writing schools. The teachers were not paid a regular salary by the council; rather, in addition to the fees which they received, they were to be given a bonus from the council in return for which they obligated themselves to teach the catechism, Christian doctrine, and religious music. This alliance of the practical studies with Protestant religious instruction, under the town council, must be considered the origin of the German *Volksschule.*

This type of school was, however, not regarded throughout the 16th century as an important institution; it was tolerated but not encouraged, for it was considered inferior in value to the Latin school. As a matter of fact, the learning of German by a student before he studied Latin was considered injurious to scholarship. The great schoolmaster Melanchthon had expressed this fear. In 1546, Duke Ulrich of Würtemberg abolished all German schools in towns where there were Latin schools, "because they drew scholars from the Latin schools, and also because Latin pupils would write Latin with German script and read with German accent." [2] Some few years later, however, his successor, Duke Christopher, reinstated the vernacular schools.

State school control. So far the discussion has been confined to the schools of the free towns, which enjoyed independent jurisdiction over their own affairs. Now the states or principalities, which were under the rule of German electors and princes, will be considered. The first of these princely domains to project schools was Schleswig-Holstein, on the border between Germany and Denmark. The school ordinance for this principality was written by Bugenhagen, and followed the plans laid down for the towns of Brunswick and Hamburg. The next developments on the part of the principalities were the Saxony church-school order of 1528 and the Pomeranian ordinance in 1535.

By the fifth decade of the century, Protestantism had become so securely established that the nobility felt sufficiently confident to form state-churches and schools. It is to be noted especially that the temporal rulers had secured control over the wealth of the church foundations and monasteries, and that the general willingness of the rulers of the German states to utilize these endowments and buildings for the educational purpose for which they were established gave Germany a superior advantage over several other European countries at this time. In many places the monasteries or cloisters were converted into state schools.

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[2] Nohle, E., "History of the German School System," in *Report of the United States Commissioner of Education* (1897–1898), Vol. I, p. 36.

For example, in 1543 Duke Moritz of Saxony founded three Latin schools supported and controlled by the state at Pforta, Meissen, and Grimma. These institutions were run in semimonastic fashion in the cloister buildings, the students living in the dormitories. Since a large number of other schools were established after these models, the Saxon effort must be considered an important development.

The third step in the evolution of state education in Germany took place in the principality of Würtemberg in 1559. At this time Duke Christopher, deeply concerned about the training of spiritual leaders for the church and of learned men for the secular professions, undertook the establishment of what may be considered the first complete school system in the German states. He provided for local schools in every town and village, with either one or more instructors. Above these two types of schools he planned: (1) the *Pädagogium* and (2) the *Cloister schools.* These institutions were preparatory schools to equip students who were expecting to enter the university. The curriculum was practically the same in both, but there was some distinction in regard to function. The *Pädagogium* trained more particularly those boys who intended to enter the learned professions, law, medicine, and higher civil offices. The Cloister schools were especially for those who were destined for the ministry or teaching. Not only were these pupils furnished with free tuition, but those who were accepted, upon examination of their character and fitness, were given free support as well. The regimen at all these schools was quite monastic. The capstone of the whole system was the University of Tübingen, which had been founded as early as 1477. It had early shown humanistic leanings, and now became one of the leading Protestant seminaries for the study of theology—a distinction which it retained for three hundred years.

As an addition to this system of classical or learned schools, some provision for vernacular schools, both for boys and girls, was also made in Würtemberg. A number of rules were laid down to be observed in the operation of these schools, but especially was emphasis placed upon religious instruction and church music. However, these vernacular schools were more tolerated than fostered. There is no evidence that anything but reading, writing, catechism, religion, and music were taught in them.

The school ordinance of Saxony, in 1580, copied the Würtemberg school system in considerable detail.

Church program of elementary training. In Germany the Reformation did not foster a deep interest in popular education along secular lines; it sought rather to improve the character of religious training. More than this, even Luther did not require. To impart such training, instruction in the catechism became well-nigh universal.

Catechismal instruction. From the earliest Christian centuries, the church had utilized catechetical instruction for the indoctrination of the young. During the later Middle Ages, the sexton of the parish church taught the Lord's Prayer, the Ave Maria, the rosary, the Ten Commandments, and the Apostles' Creed. As Protestant sects emerged, each in turn composed a catechism which expressed its fundamental religious tenets. The Waldensians had such a work, which was very widely used by other dissentient sects. The Bohemian Brethren published a catechism in 1505. Luther required the use of the short and the longer catechisms, which he wrote in 1529. Similarly, Calvin wrote a catechism which was used extensively. The Heidelberg catechism, published in 1563, became the most widely used among the Reformed Churches.

These catechisms have played a significant role in Protestant religious instruction down even to our own day. In 1527, all pastors were required by the Saxon Church Inspection Board to instruct their people, especially the children of the parishes, on Sunday afternoon in religious doctrine and church music. As it was quite impossible for the pastors to find time for this work, the duty of teaching the young was imposed upon the church sextons. In 1533, the church ordinance of

Meissen required the pastors in the villages to give such instruction, not alone on Sunday, but on one afternoon also during the week. The church ordinance of the principality of Lippe in 1538 stated: [3]

> The sexton in the villages, where there are no schools, at noon on Sunday shall assemble the children and youth who are capable of instruction, and read to them slowly and constantly the smaller catechism of Luther so that the youth be not neglected.

The general church ordinance of Saxony in 1557 demanded: [4]

> The Sacristans of the villages are obliged every Sunday at noon and on a particular day in the week diligently and clearly to teach the children the catechism and Christian hymns in German and later to review and to examine them on these materials.

Thus practically everywhere in Germany the evangelical church-school ordinances during the 16th century made such provisions for the teaching of the catechism. Similarly, in western Germany where Calvinism had a powerful grip, the Synod of Heidelberg passed an order "that only such clergy were to be appointed as were capable of teaching the catechism to the children."

Similarly, the rigorous discipline of the Calvinistic church—which was accepted in Protestant France, the Palatinate, Switzerland, Holland, Scotland, and in Puritan England—required the parents to teach the catechism in the home; the teachers, to teach it in the schools; and the pastors, to teach and explain it in the churches.

Other elementary subjects. German Protestantism was not long content with purely religious instruction. There soon came the feeling that, in order to preserve itself, it was imperative for the new religious movement to provide for the teaching of reading and writing. Furthermore, the state, which had attained a new position of dignity, power, and responsibility, took an interest in education for its own preservation.

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[3] Weber, Adalbert, *Die Geschichte der Volksschulpädagogik und der Kleinkindererziehung,* p. 59. Eisenach, J. Bachmeister, 1877.

[4] *Ibid.,* p. 59.

Accordingly, in 1559 Duke Christopher of Würtemberg, in his Grand Ecclesiastical Ordinance, broadened the scope of the German schools. The sexton was still the teacher; but, in addition to the catechism and church music, reading and writing in the German language were added. The teachers were required to pass an examination and were subject to supervision. Of greatest significance, however, was the provision for compulsory attendance at the lessons in catechism. Parents were punished for the absence of their children from *catechism school.* During the next two decades similar laws were passed in other states. In such instruction one finds the origin of the *Volksschule* throughout the states of Germany. But just as in the towns, so also in the villages, the vernacular school remained throughout the 16th century a weak and relatively unimportant institution.

The Protestant revolt and the universities. The revolt of the 16th century in northern Europe had its origin, in large measure, in the universities. This was particularly true of Germany, where the leaders of the new learning and of church reform were all, directly or indirectly, connected with the higher institutions of learning. It was inevitable that these institutions, as the strongholds of scholastic theology, should themselves suffer from the strife. "Our universities," boldly asserted Luther, "need a thorough purging; let whoever will be offended." As the storm centers of ecclesiastical revolution, the German universities suffered most acutely. Practically all of these institutions of higher learning were deserted, some of them never to recover. In none of the other countries was the reaction quite so sudden or destructive. However, the necessity of training young men for the pastoral office made an irresistible appeal to the reformers, who held that the youth must be rescued from the falsehood and drudgery of scholastic theology, and must be brought to understand the grounds of Christian truth as found in the Scriptures. Only in this way could the counterattacks of the Roman Church be met and the young pastors become true guides of Protestant congregations.

Every religious movement must sooner or later face the issue of its future growth, and must undertake to insure its perpetuity by the founding of higher institutions of learning. For this reason a number of new Protestant universities were now established, and the existing institutions were reformed, in accordance with Protestant views. Hence, wherever Protestantism gained a dominant hold, it set about in a determined manner to transform higher education for its own ends.

Among the older universities which were reformed along Protestant lines were: in central Germany, Wittenberg, the home of the German Reformation, 1533; Tübingen, in Würtemberg, 1535; Leipzig, in Saxony, 1539 to 1559; Frankfort on the Oder, 1538; and in northern Germany, Greifswald, 1539, and Rostock, 1563. Heidelberg, which had come under Calvinistic influence, was reformed during this same period.

The first of the new foundations to be established in support of the Protestant cause was the University of Marburg, in 1527. It was planned by Melanchthon and established by the Landgrave Philip of Hesse, one of the first ardent supporters of the Reformation. The university was designed to teach all sciences according to the pure word of God; theology; law; medicine; the liberal arts; and languages. It had the slogan, "Let him be accursed, whoever teaches anything contrary to the Scriptures." Under similar circumstances, the University of Königsberg, in East Prussia, was established in 1544; Jena, in Saxony, 1558; and Helmstedt, in north Germany, 1576. During the next century some six other institutions were founded in Germany; the most important of them were: Giessen, 1607; and Strassburg, which grew out of the college founded by Sturm, 1621.

The German universities, which were all organized after the same model, invariably included four departments: theology, law, medicine, and philosophy. The faculties of theology were the first to reform their courses, by repudiating scholastic theology and offering Biblical exegesis in its place. Because of their new function in the training of pastors, these theological faculties now became of first importance in the universities. They were responsible for the orthodoxy of evangelical doctrine, the adjudication of all theological controversies, and the training and examining of candidates for the ministry.

The other faculties were more or less deeply affected by the reform spirit. The abandonment of canon law and the ecclesiastical courts gave a new impetus to the pursuit of civil jurisprudence. The philosophic faculties also experienced great changes. The study of the ancient languages, Latin, Greek, and Hebrew, was pursued with intense interest because of their relation to the original Scriptures. Moreover, increasing interest was manifested in philosophical and scientific studies, and it naturally found expression in higher education.

2. SWITZERLAND AND THE CALVINISTS

School reorganization. Developments similar to those found in Germany soon followed in Switzerland and the Netherlands. Under the leadership of the reformer Zwingli, who took a deep interest in education, the schools in Zurich were reorganized. Another Swiss town, Basle, the center of the printing industry for all northern Europe, reëstablished the university in 1532 and its other schools a year later. The leading spirit in this movement was Oecolampadius, a great scholar, reformer, and friend of Zwingli. But by far the most significant development in Switzerland took place in Geneva under the dominant influence of John Calvin.

John Calvin

> No name in church history . . . has been so much loved and hated, admired and abhorred, praised and blamed, blessed and cursed, as that of John Calvin.[5]

Life and training. This truly remarkable character was the son of the secretary to the Bishop of Noyon in Picardy, France. Here Calvin was born in 1509. The father decided to make him a priest and, to this end, provided him every educational advantage by procuring for him several remunerative appointments. Needless to say, he was a precocious lad. In his tenth year he was sent to Paris to attend the *Collège de la Marche*, where he came under the instruction of Mathurin Corderius, an excellent scholar and teacher who became his life-long friend. Soon, prepared to go higher, Calvin transferred to the famous *Collège de Montaigu*, where he began the study of theology. By the peculiarity of fate, only a brief time after this young man, who was to become the rigorous Protestant reformer, withdrew, the future founder of the Jesuit Order, Ignatius of Loyola, sat on the same benches and was taught by the same masters.

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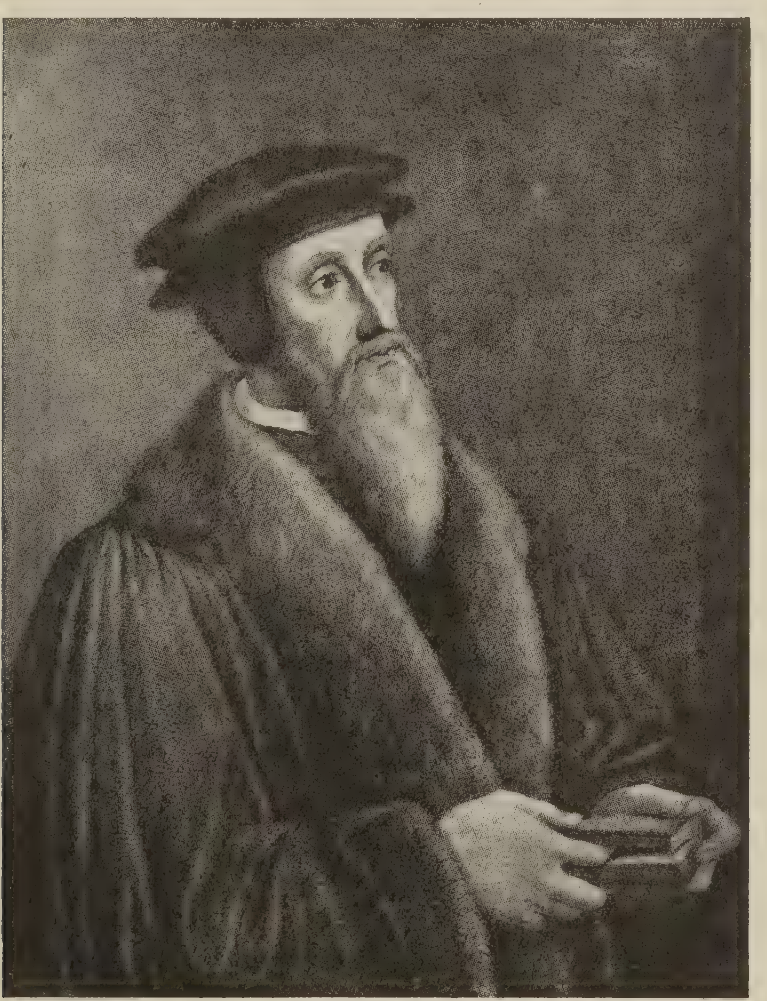
[5] Schaff, Philip, *History of the Christian Church*, Vol. VII, p. 270. New York, Scribner, 1903.

Not long before he died, Calvin's father incurred the displeasure of the Roman Church and, as a consequence, advised his son to turn his attention from the clerical to the legal profession. With this new purpose in view young Calvin attended the universities of Orleans and Bruges from 1528 to



JOHN CALVIN.

1533. However, his heart was not in the study of law, though no one could accuse him of lacking a legalistic mind. It was rather classical literature which captured his interest. When twenty-two years of age, his father having died, Calvin felt free to follow his own inclination. He thereupon returned to París and devoted his attention to the new learning. However, prior to this time, late in the year 1532, he took a step which was of momentous significance: he suddenly broke with the Catholic faith and became intensely evangelical. Finding France hostile to Protestantism, Calvin betook himself to Geneva, where he became a city pastor. At twenty-six years of age, he wrote the first edition of the *Institutes of the Christian Religion*, which, at a stroke, marked him as the master theologian of the day. Driven from Geneva by a reactionary element, for a short period he sought refuge in the liberal city of Strassburg, which sheltered numerous religious refugees. Here he acted as pastor of a church for French Protestants and also lectured on theology at the local college. In close articulation with this college was the celebrated classical gymnasium, recently founded by John Sturm. As this institution exerted a tremendous influence everywhere, one can readily believe it was not without effect upon Calvin also.

Recalled to Geneva, in the year 1541, by his inflexible will Calvin gradually transformed the city into the "Rome of Protestantism." Moreover, from this center he exerted the power which dominated church reform in France, eastern Germany, Holland, England, Scotland, and a large part of Switzerland. He died in 1564, the most creative theologian of his day, and an important figure in education.

The academy of Geneva. For many years Calvin held steadily in view the establishment of a school which would be the capstone of the ecclesiastical organization of the city of Geneva, for the moral and spiritual discipline of all the people. Because of numerous difficulties, he was unable fully to realize his plans until 1559, when he reorganized several weak Latin schools into a consolidated gymnasium and academy. The gymnasium, a conventional preparatory Latin school, had seven classes and was under the supervision of the city but was supported by tuition fees. The curriculum was thoroughly humanistic, and resembled that of the Strassburg gymnasium of John Sturm. However, Calvin placed much greater emphasis on religious instruction and training. The academy was a higher institution which gave instruction in Greek, Hebrew, ethics, logic, rhetoric, oratory, poetry, physics, and mathematics. Ten professors assisted Calvin; among them was Mathurin Corderius, Calvin's former teacher in Paris, who acted as rector of the institution.

No institution of learning of that day paid stricter attention to religious instruction. Classes began each morning with special prayers, and ended with the recitation of the Lord's Prayer and the offering of thanks. From 11 to 12 was devoted to singing psalms. At 4 in the afternoon the assembly was given over to moral discipline, and the reciting of the Lord's Prayer, the confession of faith, and the Ten Commandments. On Wednesday morning, students and faculty listened to a sermon; Saturday afternoon, all studied the catechism. On Sunday, the students attended religious worship, and then spent the rest of the day in meditation on the sermon.

The success of the school and academy was amazing. During the first year nine hundred young men enrolled from all the nations of Europe. The institution was thus immediately recognized as the chief nursery of Protestant preachers and teachers for France and other lands. It was largely taken as the model for the organization of the University of Leyden in Holland, Edinburgh in Scotland, and Emmanuel College at Cambridge University, England, which in turn greatly influenced the founding of Harvard in Massachusetts. Everywhere the Calvinistic faith was carried, it aroused an extraordinary zeal for education.

View of government and civic life. One can secure an adequate conception of Calvin's educational program only by understanding his view of government and Christian life. His genius led to the welding of church, state, and family into one combined institution for the instruction, discipline, training, and control of the entire citizenship. These institutions were the individual organs of a unified organism, with a single objective, which was to realize the Will of God on earth. Calvin visualized a theocracy, conceived in accordance with the Old Testament and under the dominance of the pastors of Geneva. John Knox declared that Geneva "is the most perfect school of Christ that ever was in the earth since the days of the apostles."[6]

In the home the parents were obliged to teach the children the catechism and Christian living. This work, as well as the daily conduct of parents, was strictly supervised by the *consistorium.* Every home was inspected at least once a year to see that the regulations were carried out. The church was used not only for worship, but likewise as a place of instruction in the catechism for both old and young. The state existed to make laws in accordance with the puritanic ideas of the pastors, to organize and support schools, and to see that the ecclesiastical regimen was carried out.

This rigorous Calvinistic regimen, which embraced all citizens, can be traced in the educational developments of the Huguenots in France, the Dutch Reformed Church in Holland, and the Puritans and Presbyterians in England and Scotland. Through all of these peoples, Calvinistic ideas were transferred to America, where they exercised a most profound influence upon the organization of education.

Calvin and the common school. Many have attributed the origin of the common school to Calvin. The historian George Bancroft asserted: "Calvin was the father of popular education, the inventor of the system of free schools."[7] The facts concerning Calvin's attitude scarcely warrant this claim any more than do the similar facts in the case of Martin Luther.[8] Calvin had no particular interest in elementary vernacular education. He complained to the council of Geneva that there were too many small schools, and the number was accordingly reduced to four—one for each quarter of the city. He required that only those boys who were unable to learn Latin should be allowed to attend these common schools. No provision was made for the education of girls, nor for compulsory training, except in the home. On the other hand, it must be admitted that his catechism furnished a small measure of religious instruction to everybody. This catechism was translated into many languages and used in many lands. Moreover, so far as the vernacular language was concerned, it must be added that the pupils in the gymnasium were to learn "to read French fluently."

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[6] McCrie, Thomas, *The Life of John Knox,* p. 129. Edinburgh, J. Ogle, 1813.

[7] Quoted, with approval, by Philip Schaff in *History of the Christian Church,* Vol. VII, p. 522.

[8] See pages 97–99 of this text.

Moral pessimism. Educational theories and practices are determined in large measure by ethical conceptions. From St. Augustine, Calvin acquired that moral pessimism which was the fundamental motive in all his religious doctrines and plans for education. To his way of thinking, the child is inherently bad; his depravity is total; all elements of his nature, emotions, reason, and will are alike perverted; all his natural childish inclinations, appetites, and interests lead him astray. In the interest of moral and religious life, they all must be suppressed, and in their place must be engrafted good habits and pious thoughts.

This point of view explains Calvin's anxiety to organize all the institutions into one harmonious environment so as to subject the youth to a single regimen, carefully supervised by an institutional conscience. The doctrine of total depravity played a prominent role in the theories of 16th-century education, and finally led, in the philosophy of the 18th century, to a reaction which favored the declaration of the original goodness of man.

Effect of Calvin's discipline on Geneva. The effect of this regimen can be seen in the statement of a sincere reformer, the Lutheran pastor Johann Valentin Andreä, of the next century. Andreä visited Geneva in 1610 and reported as follows: [9]

> When I was in Geneva, I made a notable discovery, the remembrance of which and longing for which will die only with my life. Not alone is there in existence an absolutely free commonwealth, but as an especial object of pride (*ornamentum*), a censorship of morals (*disciplina*), in accordance with which investigations are made each week into the morals and even into the slightest transgressions of the citizens, first by the supervisors of the wards, then by the aldermen, and finally by the magistrate, according as the case demands. As a result, all cursing, gambling, luxury, quarreling, hatred, conceit, deceit, extravagance, and the like, to say nothing of greater sins, are prevented.

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[9] Held, Felix Emil, *Johann Valentin Andreä's Christianopolis,* p. 27. Urbana, University of Illinois, 1914.

> What a glorious adornment—such purity of morals—for the Christian religion! With our bitterest tears we must lament that this is lacking and almost neglected with us.

3. THE NETHERLANDS

School developments. In the transition to Protestantism, the Netherlands experienced the fiendish horrors of a fanatical religious war with their Spanish overlords. Many thousands of people were martyred for their faith, others died because of the war, and tens of thousands crossed the channel into the Eastern counties of England. In consequence of the devastating conflict, the southern provinces were saved for Catholicism, but the northern provinces became intensely Protestant and, in the end, set up the Dutch Republic. This transition to Protestantism in the Netherlands came later than in Germany.

In spite of these withering experiences, the culture of the Netherlands continued to flourish, and Holland shortly attained the leading role in European civilization. In commerce, manufacturing, exploration, and invention, the Dutch had no rivals. In the arts of music, painting, smithing, her craftsmen likewise set the pace. During this age of bitter religious antagonism, the Dutch began to practice toleration, and soon Holland became an asylum for religious refugees from every land. As early as 1576 the Prince of Orange proclaimed toleration of all religions, even for Catholics and Anabaptists, and set an example to all the world. The University of Leyden, which was established in 1575 as a reward for the heroic defense against the Spaniards, became the most progressive center of learning in northern Europe, and the city of Amsterdam became a rendezvous and refuge for learned men from every country. Most of the teachers in the Netherlands became Protestant; especially was this true of the Brethren of the Common Life, who were naturally inclined toward evangelical faith. Almost every man, woman, and child had learned to read in the pre-Reformation public schools. As the schools were already in the hands of the town authorities, the transfer to the new order was effected without much opposition. With the general acceptance of Protestantism, the city councils forbade the teaching of Catholic prayers and religious practices, and required the substitution of the reformed catechism and doctrines.

School endowments. Another great advantage for the Netherlands was the ease with which the revenues and property of the old church were now diverted to the support of the public schools. In 1580 the state of Utrecht set apart its ecclesiastical property for the maintenance of schoolmasters. Three years later Zealand passed a similar law, on the ground that education "is the foundation of the commonwealth." In 1603 the revenues of the old church were turned over to the support of common schools in Friesland. The wealth of the church and the monasteries in Holland was not so great in proportion as in some other lands, yet it amounted to one-fifth of the wealth of the country.

The Dutch Reformed Church, in accordance with its Calvinistic doctrine of theocratic government, coöperated with the state authorities to advance the interests of education. In 1574 the Synod of Dort passed an ordinance directing "the servants of the Church" to obtain from the magistrates in every locality permission for the appointment of schoolmasters, and an order for their compensation as in the past. In 1582 the province of Friesland decreed that the inhabitants of the towns and villages should, within the space of six weeks, provide good and able reformed schoolmasters. If they neglected this order, teachers would be appointed for them. The Synod of Nimeguen in 1606 voluntarily requested the civil authorities to make education compulsory. The school order of Drente in 1638 introduced complusory education. So far as jurisdiction over schools outside the towns was concerned, the authority lay in the hands of the states-general or the legislature.

To show the attitude of the rulers, the following letter has been quoted. Count John of Nassau wrote to his sons and nephews, among them Lewis William, Stadtholder of Friesland, urging "the necessity of establishing a system of common schools in the United Provinces." [10]

> You must urge upon the States-General that they, according to the example of the Pope and the Jesuits, should

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[10] Quoted from Motley, John Lothrop, *History of the United Netherlands,* Vol. III, p. 119. New York, Harper, 1867.

> establish free schools where children of quality as well as of poor families, for a very small sum, could be well and christianly educated and brought up. This would be the greatest and most useful work, and the highest service that you could ever accomplish for God and Christianity, and especially for the Netherlands themselves. . . . *In summa,* one may jeer at this as popish trickery, and undervalue it as one will, there still remains in the work an inexpressible benefit. *Soldiers and patriots thus educated, with a true knowledge of God and a Christian conscience: item, churches and schools, good libraries, books and printing-presses, are better than all armies, arsenals, armouries, munitions, alliances, and treaties that can be had or imagined in the world.* . . . Pray urge upon his Grace [Prince Maurice], in cousinly and friendly manner, that he should not shrink from nor find shame or difficulty in these things, nor cease, under invocation of Divine aid, from reflecting on them, and furthering them with earnest diligence.

Three kinds of schools. There were three grades of schools fostered in the Netherlands at this time: common schools, for the masses; the classical schools, for boys who expected to enter professional life; and the universities.

Common or public schools. The common school systems of Europe and America owe their origin, in large measure, to the town schools of the Netherlands. These schools were the outcome of three contributing factors, the first of which was the demand made by commercial life. For several centuries before the Reformation, reading and writing had been taught in town or community, as well as in private, schools. Davies asserts: [11]

> We have the testimony of the Italian Guicciardini to the fact that before the outbreak of the war with Spain even the peasants in Holland could read and write well.

The second factor was the virtual democracy of the government. The idea of training the young for the service of the church-state is found in the idea of commonwealth, or "commonweal," which was widely prevalent at this time. The third factor was the Reformation.

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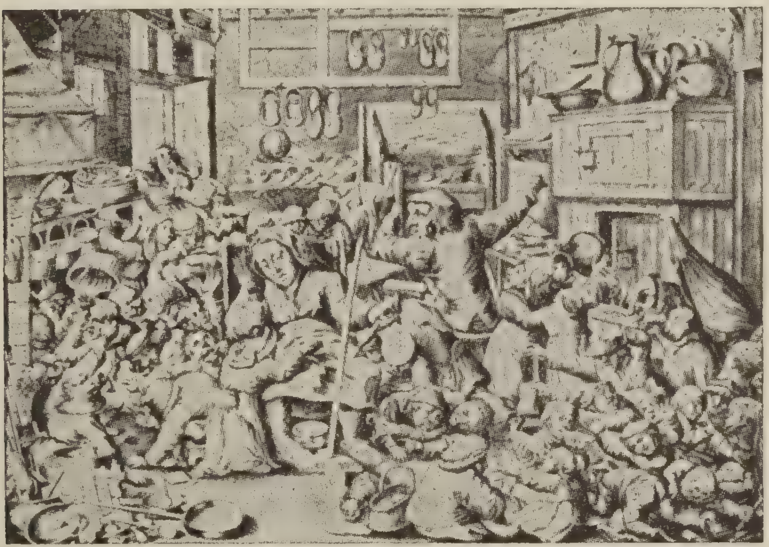
[11] Davies, C. M., *History of Holland and the Dutch People*, Vol. 1, p. 487. London, G. Willis, 1851.

During the Reformation in Holland the Calvinistic doctrines contributed significantly to the demand for popular education. The aims of the church required: (1) learning of the creed and chief dogmas as found in the catechism; (2) training in moral habits and attendance upon the services of the church; (3) reading the Scriptures; and (4) the singing of the Psalms. This much of religious instruction was to be universal. Girls as well as boys were admitted to the elementary schools.



A DUTCH SCHOOL OF THE SIXTEENTH CENTURY.

The organic unity of church and state implied, moreover, the ideas of compulsory training, service to the commonwealth, state support and control of the schools, and gratuitous instruction. In spite of its establishment as the official religion of the state, the Reformed Church did not have complete control of education in the provinces. Large numbers of the population belonged to other faiths, especially the Catholics, Arminians, and Mennonites. These peoples thwarted the ambition of the Calvinists for full control of the schools. In consequence of this division, the secular authorities kept a large measure of control over all educational affairs. All these factors assisted in realizing an effective system of public schools in Holland long before it was found elsewhere.

Classical schools. The classical schools, or gymnasia, were widely distributed in the Netherlands, and were under the control of the municipal authorities. Latin and Greek were usually taught; but many schools expanded their curricula beyond the narrow course of Sturm. French, mathematics, and philosophy were frequently included in their courses of study.

Universities. The progressive culture of the Dutch people is well exemplified in their celebrated universities. The following institutions were established: Leyden, in 1575; Franeker, in Friesland, 1585; Groningen, 1614; Amsterdam, 1630; Utrecht, 1638; and Harderwijk, 1648. In all, Holland had fourteen higher institutions of note. Among these, Leyden attained greatest celebrity. It was founded to commemorate the successful resistance of the town against the siege of the Spaniards. Rewarded by a choice of immunity from taxation or the establishment of a university, the inhabitants of Leyden chose a "free school and university." The new institution immediately became a rendezvous for French and English Protestants, as well as students from their own people. Over two thousand students of English nationality matriculated in Leyden during the 17th century. Among the many celebrated scholars connected with Leyden were Joseph Scaliger, Grotius, Arminius, Stevin, and Boerhaave.

Influence of Dutch schools. Educational historians, especially in America, have devoted entirely inadequate attention to the Dutch influence. Their advanced ideas of school organization, curricula, and methods radiated in every direction. Alsted, Ratich, and Comenius carried them to Germany and Sweden; while Milton, Petty, and others introduced them into England. Moreover, the Pilgrims and the Puritans who came to New England must certainly have received educational ideas from their fellow religionists across the North Sea.

It has been estimated that about 10,000 Englishmen took up residence in Holland during the stay of the Pilgrims; many of them attended the universities, and their children were taught in the schools. Among these were Robinson and Brewer, who played so conspicuous a role in the emigration to the New World. In 1609 when the Pilgrim Fathers took up their residence in Leyden, the school had become the common property of the people: [12]

> It was a land where every child went to school, where almost every individual could read and write, where even the middle classes were proficient in mathematics and the classics, and could speak two or more modern languages.
>
> There was hardly a Netherlander—man, woman, or child that could not read and write. The school was the common property of the people, paid for among the municipal expenses. In the cities, as well as in the rural districts, there were not only common schools but classical schools. In the burgher families it was rare to find boys who had not been taught Latin, or girls unacquainted with French.

According to another writer,[13] the leaders of the Pilgrims in Holland

> . . . became citizens, paid their taxes, and took advantage of the common schools and the municipal privileges.

Griffis also states that between 80,000 and 100,000 persons emigrated from the Netherlands into England.[14]

> The direct influence of these refugees on the English people was seen in this—that each foreign workman was compelled by law to take and train one English apprentice. This law sent, probably, fifty thousand English boys and young men to school, not only in industry, but in republican ideas and liberal notions. These refugees, as English historians acknowledge, achieved the industrial Revolution of England.

Again, we must not overlook the direct influence of Dutch education upon colonial America, which will be discussed later.

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[12] Motley, John Lothrop, *op. cit.,* Vol. IV, p. 432.

[13] Griffis, W. Elliot, *The Influence of the Netherlands in the Making of the English Commonwealth and the American Republic,* p. 17. Boston, De Wolfe, Fisk & Co., 1891.

[14] *Ibid.,* p. 10. See also De Vries, Tieman, *Dutch History, Art and Literature,* p. 37 *et seq.*

4. Education Among Other Sects on the Continent

The Bohemian Brethren had schools and publications prior to the Lutheran Reformation. At the beginning of the 16th century, they boasted three publishing establishments and, among other works, published a catechism and a hymnal. A Bible in the Bohemian tongue was issued in Venice. Between 1500 and 1510, some sixty new publications appeared in Europe, and fifty of them were published by the Bohemian Brethren. Throughout the 16th century, good parochial schools were to be found in every Moravian parish, and they continued until destroyed by the Thirty Years' War. In addition to these, the Brethren possessed several higher schools. It will, furthermore, be recalled that the University of Prague was the earliest in that whole section of Europe, a further evidence of Bohemian progressiveness and culture at the time.

By the end of the 16th century, education was highly developed in this part of the Continent. In 1574 there was founded at Eibenschütz a college for young noblemen. In 1575 about forty students for the ministry were studying at foreign universities. The number of schools in Bohemia and Moravia had increased.

At the beginning of the 17th century, schools began to flourish and increase in an unprecedented way. De Schweinitz, in his history of the Moravian church, draws a rather flattering picture of educational conditions:[15]

> There was not a market town without at least one school, while larger towns had several. In Prague there were sixteen, besides two gymnasia. It was claimed these Bohemian schools were the best schools in Europe. There were parish schools, each in charge commonly of two teachers, sometimes five or six. No one was employed as an instructor unless he had attained to the degree of a Bachelor of Arts; in a majority of cases the teachers had reached the degree of Masters.
>
> This was the golden age for Bohemian learning and literature. Prague could boast of celebrities like Tycho

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[15] De Schweinitz, Edmund, *The History of the Church, The Unitas Fratrum,* p. 468. Bethlehem, Pa., Moravian Publishing Office, 1885.

Brahe, the astronomer; John Kepler, the mathematician; John Jessen, the physiologist and anatomist.

5. ENGLAND

Forces contributing to the English Reformation. The heart of the Reformation in England was an intense desire, widely diffused among all ranks of society, for a disciplined and preaching clergy and for the reform of ecclesiastical abuses. The Reformation was brought about by a series of acts of Parliament and of orders in council, enacted and issued between 1530 and 1603; thereby, the transformation of England from a feudal and clerical civilization to a civilian and commercial one was effected. The revolution was led and controlled by Henry VIII, by the Protectors who ruled England while Edward VI was king, and by Queen Elizabeth. The Tudors used movements with which they had little sympathy, but which they always directed toward the one goal, the gaining of power for the Crown of England. To attain this end, it was essential that the financial resources and the teachings of the church be controlled by the sovereign; after a long struggle, this innovation was accomplished.

Evangelicalism. Most important among the forces used by the Tudors in bringing the Church of England under the control of the secular government was evangelicalism. This movement, which was at all times closely connected with evangelical activities on the Continent, had been present since early times in England; under the name of *Lollardy* the movement had taken on serious proportions. It was strongly anticlerical, zealous for moral reform, and leveling in tendency; it appealed from the authority of the prelates to the authority of the Bible. The anticlericalism of the evangelicalists resulted in their inclining to the side of nationalism in the struggle between Parliament and the King of England on the one side and the Roman Curia on the other.

John Wycliffe (1320–1384), called "the morning star of the Reformation," developed in his writings the main tenets of evangelicalism: he taught communism, holding that righteousness alone gives title to dominion and property and that all those who belong to Christ have equal lordship over the earth. Assisted by Nicholas Hereford and John Purvey, he translated the Bible into English. His translation was the very life of Lollardy, and played a significant part in the development of English prose. He supported John of Gaunt in the latter's antipapal struggle. Wycliffe's decision that Parliament, despite the Pope's command, might lawfully prohibit the sending of funds from England is contained in a state paper which is still preserved. He was unsparing in his denunciation of clerical faults and vices. In his theocratic conception of national kingship, in his denunciation of papal monarchy, and in his attack on the doctrines of sacerdotal power of the clergy and of transubstantiation, he anticipated—and, in fact, assisted in bringing about—the continental revolt. Writing in scholastic Latin, Wycliffe spoke for the King and Parliament of England. His English Bible was preached and circulated among the people; and his leveling doctrines were given a form that caught the attention of the populace. John Ball, leader of the Peasant's Revolt of 1381, in his couplet

> When Adam delved and Eva span,
> Who was then the gentleman?

expressed the democratic tendencies of the times and appealed from lord and bishop to the Scriptures. In school and in secret meetings, the teachings of evangelicalism were spread among the people. Although Lollardy was driven under cover, its intense vitality enabled it to live through all attacks—first, in the Reformation; later, in the Puritan revolution and the Whig reforms; and still later, in the liberal and humanitarian reforms of the late 18th and early 19th centuries. Most of the principles for which it contended were established permanently in English life.

Increased importance of gentry and townsmen. As on the Continent, so also in England, the rise of a middle class of people to wealth and power necessitated changes in government. The municipal, the merchants', and the manufacturers' guilds of the later Middle Ages developed a new, and exceedingly numerous, privileged group. The sons of these people studied the liberal arts, law, medicine, and theology, and came to exert a determining influence upon the direction of culture and government.

Henry VIII, patron of Humanism. When, in 1509, Henry VIII came to the throne of England, the Humanists hailed with joy the advent of a king who had tasted of the new learning. Henry was an enthusiastic Humanist, who was well versed in Latin, French, Italian, and Spanish, and who exercised rare judgment in the choice of scholars upon whom to bestow royal favor and bounty. Opponents of the new learning were called to Woodstock and silenced; Henry himself established a chair of Greek at Corpus Christi College, Oxford. Henry long remained the patron of Ascham, Vives, Erasmus, and More. Under his favor, Humanism spread with astonishing rapidity.

Break of the English Church with the Roman Curia. For centuries before the reign of Henry VIII, the relationship of the temporal and spiritual authorities in England had given grave concern to the leaders of the realm. One measure after another advanced the monarchical power and contributed to national unity, until, in the fourth decade of the 16th century, the English throne was ready to claim a monopoly of power within its territorial bounds and to maintain its claims against all opponents of royal supremacy. Henry's desire to have his marriage with Catherine of Aragon declared invalid precipitated a struggle with the Roman Curia, in the course of which Parliament, in 1534, passed the Act of Supremacy. This act provided that the King of England should have complete control of all matters pertaining to religion, and over all religious institutions in England. It empowered him to assume control of all church properties, and to direct the acts of his subjects in all that related to religious practice and faith.

When Henry VIII, a little later, took the title "on earth Supreme Head of the Church of England" and made Cromwell, a layman, his vicar-general, one of the most important revolutions in the history of the western world had been accomplished. Not only had the church become national, but it was, in addition, dominated by laymen. Although professing to restore the liberties of the Church of England, Henry actually made the bishop subject to himself, and the right of preaching was restricted to those priests who obtained license from the king. Topics of clerical discourses were prescribed; the bishops supervised subordinate clergy, the sheriffs watched over the bishops, and the vicar-general watched over all.

Dissolution of the monasteries; the chantry acts. Since the monastic and preaching orders did not fit into Cromwell's scheme for the organization of the Church of England, he made ready to use the wealth of these institutions, as well as that of shrines and chantry foundations, to advance the political and economic interests of the realm. A visitation of the monasteries was followed by a report in which they were severely arraigned. By a succession of acts in the reigns of Henry and of Edward, these institutions were suppressed and their revenues given to the Crown. Many of the grammar schools listed as "founded" during the 16th century were simply existing institutions reëndowed with monastic funds; or, if they were new institutions, they were established from the resources of earlier foundations, many of which had provided some kind of educational instruction. The refounding of schools had begun, however, before the break of the Church of England with the Roman Curia. Many of the monastic churches, likewise, were refounded as churches of secular canons. The net result of the suppression of monasteries and chantries, so far as schools were concerned, was to bring the schools under royal patronage, and to release a considerable amount of wealth for their support.

The Reformation after Henry VIII. The suppression of the monasteries and of certain shrines where trickery had been practiced was the signal for outbreaks. On the one hand, those of the extreme Prostestant party began to riot and to break the images in churches; and on the other, Catholics in northern England, where Protestantism had made little headway, rose in protest. Both disturbances were put down immediately, and the Act of the Six Articles was issued. This act was directed against reformed theology and shows, moreover, how far the nation in 1539 actually was from breaking with its old faith.

To break with the Roman Curia and to make the Church of England an instrument of the government involved the work of a decade. To make England Protestant in sentiment required sixty years' time, and comprised the reigns of Edward VI, of Mary, and of Elizabeth. During the reign of Edward VI, prelates who manifested open sympathy with Protestantism received preferment; the Act of the Six Articles was repealed; and certain articles, forty-two in number, were adopted as the standards of faith of the Church of England.

These articles were Protestant and, when later reduced to thirty-nine, formed the statement of faith of the Church of England; they have remained such even to the present day. Prayer books were issued in English, and in churches Protestant practices displaced Catholic. When Mary ascended the throne, she attempted to restore the church once more to the older communion. The persecutions by which she attempted to enforce her policy enraged the people, and excited so much sympathy for the Protestants that the Reformation received general popular approval. Early in the reign of Elizabeth, Protestant standards of doctrine were reëstablished; the English Book of Common Prayer was introduced; and, as priests died, they were replaced by Protestant ministers.

Elizabeth's church policy rested upon the Act of Supremacy and the Act of Uniformity. The first statute conferred upon the civil government full authority over the church; the second required of all subjects outward conformity to the faith and worship of the Established Church. The ecclesiastical commission and the successive primates, who were the instruments of the government in enforcing uniformity, were empowered to deprive non-conforming clergymen of their benefices. Schoolmasters were required to profess their faith in the doctrinal standards and to attend the services of the Established Church. Catholics and Protestant dissenters alike were forced into an outward show of conformity or were punished for their non-compliance. The vigorous measures taken by the government and the intense national spirit aroused during Elizabeth's reign completed England's transition from Catholicism to Anglicanism.

The Statute of Apprentices. The passing of the economic and social system of the Middle Ages was attended by the disintegration of the guilds, and consequently by the decay of industrial training in England. In an attempt to arrest this decay, the English Parliament passed (1562–1563) the Statute of Apprentices. This law was intended to promote instruction in agriculture and animal husbandry, and technical education in industrial and mechanical arts. Until its repeal in 1825, this statute remained the law covering the relation of masters and apprentices in England; and it was the model of legislation concerning apprenticeship in the English colonies in North America.

Poor laws. England was confronted in the 16th century with problems of unemployment, of poor relief, and of control of the lower working classes. In an endeavor to cope with these problems the Tudor statesmen gradually developed a system of poor laws, which were codified in the famous statute of 1601. This act provided for the relief of poverty out of local taxes and for a measure of supervision of the poor. The parish was made the unit for the administration of the law: in each parish the justices of the peace were to nominate the church wardens and two or three propertied persons as a board of overseers of the poor. This parish board had power to levy taxes and to enforce this levy, to build workhouses, to put the poor to work, to place children of the poor in workhouses and to bind them out as apprentices, and to administer relief to the poor who were not living in workhouses. Until the poor law reforms of 1834, this act governed English practice in dealing with the education of the poor. Under it many children were sent to America. The act also influenced legislation affecting educational matters in the settlements of Massachusetts and also in those of Virginia.

Theory of Education in Tudor England

Nationalism and Humanism. The Anglican Reformation was influenced by the conception of national regeneration through the power of the ruling prince. Worship of the state, and the idealization of a ruling prince—strong in body, brave, magnanimous, scholarly, wise, powerful, and of awesome dignity—were the features of the new national ideal. The hopes of the people were centered in the ruler—in loving the king "no less than God," Thomas Cromwell expressed the spirit of his age. The ruling prince was head, protector, and father of all national institutions and of his people. For the regimen which would produce the powerful personality demanded in its ruler, the 16th century relied upon the training of humanistic culture. Classical authors furnished the methods and organization, as well as the content, of the aristocratic educational system. Accordingly, the leading English schools of the 16th century had two characteristics: they were classical schools, and they were schools for the ruling class. With the education of the poor, or the lower classes, few theorists of the century had any concern.

Sir Thomas Elyot. The theory of education which formed a part of the Tudor doctrine of royal supremacy was formulated by Sir Thomas Elyot (1490–1546) and set forth in his book *The Governour.* The son of an English lawyer who held high rank under the Crown, Elyot's active career was passed in the royal service. He was clerk to the Privy Council; he accompanied Cromwell on the first visitation to religious houses; and he made journeys to the Continent on diplomatic errands. The purposes of the first of these missions were to further Henry's divorce from Catherine of Aragon and to bring about the arrest of William Tyndale. Elyot was at once Humanist and exponent of royal supremacy; both Sir Thomas More and Thomas Cromwell were his friends.

In addition to his treatise on education, *The Boke Named the Governour*, which went through ten editions in the 16th century, Elyot compiled a Latin-English dictionary; made translations from St. Cyprian, Isocrates, and Plutarch; and wrote essays on practical conduct, education, and devotional life. He drew upon Agricola, Erasmus, and other Renaissance scholars, but leaned principally upon the writers of antiquity, making many allusions to the works of Plato, Aristotle, Livy, Plutarch, and Quintilian, and to the Bible.

The Governour, published in 1531, treats of the education in virtue and manners of the rulers of a state. In the first chapter of the book, the nature and importance of governments, or "the public weal," are discussed. Elyot was no democrat. Stable government, security, and peace, *The Governour* claims, are dependent upon the existence of "discrepance of degrees": hierarchies in the church, and superior and inferior ranks in the nation. A "public weal" can have but "one capital and sovereign governour." Under the sovereign are inferior "governours," who have their authority from him and govern in his name. Most inferior "governours" are to be chosen from among persons of "that estate of men called worshipful"—that is to say, they are to be by birth persons of rank; as being more accustomed to authority, more acceptable as magistrates to the people; and, as persons of wealth, more likely to have been properly educated. In some instances, however, men "of the base estate of the commonality" who are possessed of "excellent virtue and learning" may be advanced to high place.

The Governour then elaborates a system of training. The education of the boy destined for public life should be his father's chief concern. His nurse should be thoughtfully chosen; and his health, morals, and early training in speech looked after with the utmost care. At seven years of age, the boy is to be removed from feminine influence and put at his studies, under a tutor. At this age the pupil is supposed already to have learned Latin by hearing it spoken during his infancy. Greek, as Quintilian advised, is to be taught before Latin grammar and literature. In the early stages of the study of a language, the tongue to be learned should be used in ordinary conversation; only so much grammar as is absolutely necessary and can be readily understood is introduced. Children should not be forced "by violence to learn," but "sweetly allured thereto with praises and such pretty gifts as children delight in." The first duty of the tutor is "to know the nature of his pupils" that he may intelligently correct any faults and adapt instruction to the interests and abilities of his charges.

In the program of studies for the boy, *The Governour* includes: languages, rhetoric, literature, moral maxims, music, logic, geography, and history. For an adult, Elyot adds to his course the laws of England. Physical exercise is of value for recreation and for health, and may be proposed as training for the duties of war and peace. He further advocates wrestling, running, swimming, riding "great and fierce" horses, hunting, dancing, and shooting the long bow, the last being the "principal of all other exercises." Chess and dancing are the only polite accomplishments which find a place in Elyot's scheme of training. His analysis of the social, moral, and recreational values of dancing is excellent. All studies and exercises have one purpose, the "institution of a man's life in virtue." Particularly interesting is Elyot's statement of the place of music in education—a doctrine that is evidently drawn from Plato, and that Elyot was the first, among educational theorists, to write in English.

The provision for and insistence upon manners, morals, knightly accomplishments, and private tutoring, together with humanistic learning, are typical of English aristocratic training, and remind one forcibly of Castiglione's famous *Book of the Courtier* (*Libro del Cortegiano*), published three years before *The Governour.*

Theory of education after Elyot. Although English writers of the 16th century produced no other books on the education of a ruler at all comparable to *The Governour,* the subject engaged the pens of a number of writers before the end of the century. *The Institution of a Gentleman* (1557), by an unknown writer; *Toxophilus* (1545) and *The Schoolmaster* (1572), by Roger Ascham; *Queen Elizabeth's Academy* (1572), by Sir Humphrey Gilbert; and *Euphues* and *Euphues and his England,* by Lyly, continued the aristocratic tradition. Four years after the death of Elizabeth, Cleland's *Institution of a Nobleman* appeared. Two of the greatest books on education of that period, however, are very different in point of view from *The Governour.* These are: *Positions* (1581) and *Elementarie* (1582), both by Richard Mulcaster.

The Institution of a Gentleman describes the character and training of the men who, by birth or by superior attainments, are social and political leaders. Such persons should be learned in languages, trained in the use of arms and in military affairs, and trained in the polite accomplishments and courtly behavior.

In his *Queen Elizabeth's Academy,* Sir Humphrey Gilbert points out that a learned education is not well adapted to the life which must be lived by men of gentle birth, and advises a training through "matters of action meet for present practice, both of peace and war." He proposes "the erection of an Academy in London for the education of her Majesty's wards and all other youth of nobility and gentlemen." All teaching, even of foreign languages, will employ the English tongue. Members of the academy will belong to four groups. In the first group, Latin, Greek, Hebrew, logic, history, politics, government, economic policy, and military policy will be studied. In the second group, science will be taught. Lectures in law and divinity will engage the third group, though professional knowledge of these subjects will be sought in professional schools. In the fourth group, modern languages, music, dancing, and the use of weapons will be taught. Readers and lecturers of the academy will be required to produce scholarly works in their respective fields. A herald of arms, who is to study the records and pedigrees of pupils, will be attached to the institution. The library will receive a copy of every book published in England, and books published in other countries will also be purchased.

Ascham's *Toxophilus* is a volume in praise of the practice of archery, a sport earlier praised by Elyot, and generally practiced by English yeomen and gentlemen. Ascham's *The Schoolmaster* treats scarcely at all of schools, but of a "plain and perfect way of teaching children to understand, write and speak the Latin tongue, but especially for the private bringing up of youth in gentlemen's and noblemen's houses. . . ." Ascham proposes that Latin be taught principally by means of exercises in translation. He advises the use of a book of selections compiled by Sturm from the writings of Cicero. The Latin of this book is to be translated into English by the student, who is to write his rendering in an exercise book; then, after an interval, the student is to translate his English back into the Latin, comparing his Latin with that of the book from which the initial translation was made.

Ascham's educational ideal, as projected in *The Schoolmaster,* is a narrower one than that of the Humanists; it has three points: truth in religion, honesty of living, and right order in learning. "Moderate wits" are warned to avoid the study of arithmetic and geometry, because these disciplines "sharpen men's wits overmuch," so that mathematicians are "unfit to live with others" and "unapt to serve in the world." Music is rejected for most pupils, because it tends to "make a man's wit so soft and smooth, so tender and quainsy, that they be less able to brook strong and tough study." He teaches the familiar fallacy that the slow are the sure, and the quick, the superficial. He advises gentleness with pupils, and is not nearly so trenchant as is Quintilian. Travel on the Continent and loose manners at court draw his censure. He commends the courtly exercises: riding; swimming; and the use of weapons, especially the bow. Dancing, running and vaulting, hunting, tennis and other games are suggested for all.

The Schoolmaster was generally read in England, and influenced actual practice in English grammar schools as well as the writings of 17th-century theorists.

English Schools in the Sixteenth Century

School reforms. The more important changes which took place in the schools and in the two universities of England during the 16th century may be listed as follows:

(1) Grammar schools and colleges in the universities were richly reëndowed by private gifts and from the resources of dissolved ecclesiastical foundations.

(2) English catechisms and primers were generally introduced into the schools.

(3) Song schools were abolished.

(4) Humanism affected the course of study of secondary schools and the universities. Grammar and literature gained at the expense of dialectic.

(5) Many schools were removed from the control of ecclesiastical bodies, and placed under lay corporations. New institutions were controlled, from the first, by laymen.

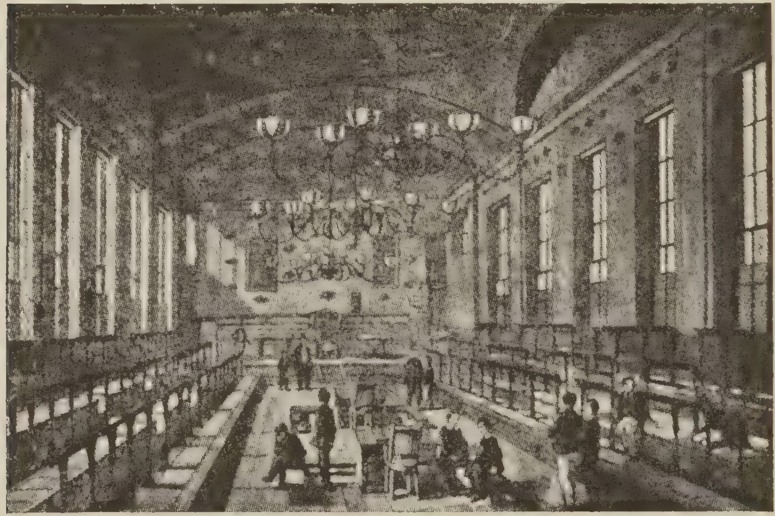
(6) The government instituted close supervision of schoolmasters; it made the bishops responsible for the regular attendance of the masters at the worship of the Established Church, for their orthodoxy, and for their loyalty to the government.

(7) Boarding and day schools were patronized increasingly by noblemen and by wealthy commoners. Schools at the courts of abbots, bishops, and noblemen, and even palace schools, disappeared. Tutors were employed at most great houses, but the boarding and day schools educated a large number of the sons of wealthy families. The Latin schools were beginning to be regarded as important agencies for the training of boys for public life.

For two reasons the sweeping nature of these changes is not readily apparent: First, the reforms had begun long before the passage of the Act of Supremacy; and second, instead of instituting a new system during the 16th century, the English adapted old institutions to meet the new demands. The nature of the reforms can be best understood if an account is given, in some detail, of the developments which took place in individual schools and in the universities.

St. Paul's School. St. Paul's School was certainly in existence early in the 12th century and, through all of the later

Middle Ages, was one of the important schools of London. About 1505 the Oxford Humanist, John Colet, was made Dean of St. Paul's Cathedral. During 1510 he completed a new schoolhouse on the grounds of the cathedral, and obtained a royal license for his school. William Lily, of Magdalen College, Oxford, was appointed master of the school and was granted all of the privileges which had been enjoyed by former masters. The next year the control of the school was transferred to the lay Trade Company of Mercers, the members of which became its trustees and governors. The old endowment, yielding five pounds a year, was bestowed upon the new school and was now increased until it produced more than one hundred and twenty-two pounds a year. Colet wrote a catechism in English, that was to be used in the school; and Colet and Lily, with the help of Erasmus, wrote the Latin grammar, known as *Lily's Grammar,* which was for centuries the grammar most widely used in England and in North America and was long the authorized grammar in English schools.



A Schoolroom of St. Paul's School, England, 1750–1860.

The Statutes of St. Paul's reveal the character of the institution. The founder desired an education in "good manners and literature." Boys were admitted when they were able to read and write Latin sufficiently well that each could read and write his own lessons. No tuition charge was made. Pupils were taught, in English, the Ten Commandments, the catechism, and the Articles of Faith of the Established Church, and were required to attend mass in the chapel of the school. *Lily's Latin Grammar,* textbooks by Erasmus and other Christian authors, and works in Latin by early Christian writers were prescribed for use in the school. The Statutes charged the master of the school to teach Greek, which had been taught earlier, it is believed, at Eton and at Westminster, but this was the first prescription of it in the statutes of an English school.

Courses of study and textbooks. The schools of the 16th century were in a transition stage so far as the principal subjects of study were concerned. Logic, the chief subject of the faculty of arts in the medieval university, was studied in English grammar schools until late in the 17th century, and in the dissenting academies until much later. However, there was, in the period of the Reformation, a sharp reaction against medieval dialectic. Peter Ramus simplified the subject, and his logic was imitated by a number of writers. In some quarters, logic was studied in connection with rhetoric. The old tradition of authority was gradually lost from the study of the subject, and material truth was regarded as the equal of formal truth. The way was being prepared for the work of Bacon and of the non-conformist academies.

During the 16th century a great number of textbooks were produced. Among the most famous of these were the Latin grammars of Linacre and Lily; an *ABC* book and a primer, which were issued by royal authority; the catechisms of Colet, Erasmus, and Nowell; the *Colloquies* of Corderius, Erasmus, and Vives; and a great number of word-lists, dictionaries, and phrase-books. Early Greek grammars came from the Continent. Most significant, perhaps, was the preparation, for use in the schools, of editions of the Latin and Greek classics, and the use, after the middle of the century, of the Bible as a schoolbook. Other books widely used in schools were Cato's *Disticha de Moribus,* Aesop's fables, Cicero's orations and letters, and selections from Terence, Ovid, Livy, Sallust, Quintus Curtius, Virgil, and Horace.

Generally, in the 16th century, care was taken to maintain uniformity in the teaching of grammar. The Latin schools did not, however, confine themselves to teaching the accidence and rules. The Statutes (1528) of Ipswich School required rhetoric. Plays were presented and there were exercises in the composition of verse and prose. Letter writing was taught as a means both of improving the knowledge of Latin and of preparing young men to assume the duties of secretarial positions. In the study of letter writing, dictionaries were used, letters were examined (so that students might become familiar with the various types), the principles of letter writing were learned, and there was a great deal of practice in the actual production of letters. Practical considerations determined much of the work of the schools.

Reading, writing, catechism, manners, and morals were taught in elementary vernacular schools. A child learning to read studied, first, the hornbook; then, an *ABC* book; and next, a primer.

Manners and morals, which had comprised so large a part of the instruction in household schools of the Middle Ages, received much attention from English teachers in the 16th and 17th centuries. Statutes of endowed schools required that these subjects be taught, and the list of English books which deal with the subject is a long one. A quatrain from Coote's *English Schoolmaster* (1596) reflects the importance attached to the subject:

First, I command thee God to serve,
  Then to thy Parent duty yield;
Unto all men be courteous,
  And mannerly in Town and Field.

That the study of manners was not neglected in elementary schools may be gathered from a passage in Hoole's *A New Discovery*: [16]

> The sweet and orderly behavior of children addeth more credit to a Schoole then due and constant Teaching, because this speaketh to every one that the child is well taught though (perhaps) he learn but little, and good manners are indeed a main part of good education.

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[16] Hoole, Charles, *A New Discovery of the Old Art of Teaching School,* p. 63. Syracuse, Bardeen, 1912.

Endowed grammar schools. England had in the 15th and 16th centuries a number of grammar schools endowed, by philanthropic individuals, for the purpose of providing free education for poor boys. The charitable intentions of the founders are indicated by the fact that almshouses were associated with some of these schools. After the collapse of the feudal system had destroyed the palace schools, the fashion was to provide for boys of the ruling classes a more extensive literary training than had been customary. In the 16th century the classical course became the recognized basis for the intellectual training of an English gentleman.

The free schools admitted paying pupils, and so popular did some of them become with the families of the well-to-do that their status as free schools was all but lost. Nine of them took on the character that caused them later to be called the *great public schools;* that is to say, they were public in the sense that they prepared boys for the service of the state, and that their enrollments were not entirely drawn from local sources, but rather from a wide area. The nine great public schools included: Winchester, Eton, Westminster, St. Paul's, Merchant Taylors', Shrewsbury, Charterhouse, Rugby, and Harrow. Winchester, established in 1382, by William of Wykeham, on the foundation of an older grammar school, was the first of these schools. Eton, the next oldest and founded near Windsor Castle by Henry VI, was from its beginning the school of the aristocracy. Harrow and Rugby, founded as local, free grammar schools, came in time to draw boys, not only from all of England, but also from every region under the British flag. The courses of study in these schools have always been dominated by the classical tradition. It must be added that these schools developed a distinctive type of character training, both through sports and through the training in manners which the boys received from the traditional *esprit de corps* of their particular institution.

Universities. Humanism gradually displaced Scholasticism at Oxford and Cambridge. The instruction in logic was reformed, and canon law was abolished. Toward the close of the century, Calvinism affected the teaching of theology, and at Cambridge the theological foundations of English Puritanism were laid.

Endowment. During the Reformation, monasteries and nunneries were suppressed in England, as on the Continent, to provide endowments for educational foundations. Cardinal (later called Christ Church), Jesus, and St. John's Colleges, at Oxford University, received funds from suppressed foundations. As a result of the general suppression of such ecclesiastical institutions in the last years of Henry VIII and during the reign of Edward VI, enormous sums that had belonged to these foundations were diverted to the new grammar schools and to the colleges of Oxford and Cambridge. The precedent, set by his predecessors, of endowing schools by royal funds was followed by Henry VIII and continued by his successors. Private munificence, such as that of Colet at St. Paul's, enriched numerous schools and colleges; Merchant Taylors' School (1561), Rugby (1572), and Harrow (1615) are other examples of schools endowed by private benevolence. Lists of schools of the 16th century are incomplete, but it is certain that there were grammar schools in all English towns of any considerable size during the reign of Queen Elizabeth.

Student body. After the Reformation, clerics—who in the Middle Ages had enjoyed almost a monopoly of the secretarial and civil service positions—were supplanted, at least in state services, by laymen. The collapse of feudalism and the rapid increase in the power and prestige of the English Crown had made the rewards offered for service to the king exceedingly attractive, and these positions were eagerly sought by the greatest noblemen. Henry and Elizabeth demanded competence of those who served them; hence, ability and educational preparation, more than family connection, determined preferment. The education offered by the grammar schools, universities, and the Inns of the Court and of Chancery was consequently greatly in demand by those seeking a career in the service of the Crown. Eton, Winchester, Westminster, and the universities received great numbers of youths from the ranks of the rich and high-born. Paying scholars so outnumbered foundation scholars at certain free schools that the original purpose of these institutions was practically lost. The complaint was made of the universities: "There be now none but rich men's sons in colleges and their fathers look not to have them preachers." A later grievance was that the rich had by bribery secured places in the colleges and schools for their children, and, by displacing worthy scholars, were defeating the intentions of the founders.

Oxford, Cambridge, and the endowed grammar schools became, as a result of producing the social and political leaders of England, truly national institutions. They performed for the British Empire the service for which the courtly academies (*Ritterakademien*) were founded on the Continent.

Government control of education. Reference has already been made to the control of the election of bishops and the licensing of clergymen, as well as to the supervision of preaching and the issuance of schoolbooks by the government. All schoolmasters were subject to state authority and approval. The first act placed by Elizabeth on the statute books required every person taking orders in the church and everyone admitted to any degree at any university in the realm to take an oath acknowledging the supremacy of the Crown in all matters, spiritual and temporal. Of this oath, De Montmorency says: [17]

> Its importance lies in the fact that it was the fore-runner of official oaths that were destined in the seventeenth and eighteenth centuries to lie lightly on the University conscience, while they oppressed as with a burden national education.

Acting under directions from the Privy Council, Archbishop Grindal, Archbishop Whitgift, and various bishops during the last part of Elizabeth's reign exercised close supervision over schoolmasters in all matters concerning their conformity to the national religion and their loyalty to the government. Conditions prescribed for licenses to teach were in accordance with the laws of the realm. Schoolmasters were punished for failure to comply with the statutes, and schools were fined for employing masters not properly accredited. The statutes of various schools, also, required masters to conform to the established religion, and to conduct themselves blamelessly.[18]

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[17] De Montmorency, J. E. G., *State Intervention in English Education,* p. 82. Cambridge, University Press, 1902.

[18] For a typical order requiring masters to secure the bishop's license, see De Montmorency, J. E. G., *op. cit.,* p. 94.

6. Scotland

The Reformation took place in Scotland somewhat later than elsewhere, and resulted in the formation in Scotland, as in England, of a national church established by act of Parliament. During the later part of the 15th and the beginning of the 16th century, Scotland felt the impact of Humanism; schools and universities were brought under lay control and patronage, and important, new educational institutions were founded.[19] In certain respects, however, the Reformation took in Scotland a very different course from that which it had already taken across the border. This difference was due (1) principally, to the fact that the crown did not dominate Scotland in the 16th century as Henry and Elizabeth dominated England; and (2) to the additional fact that the Scottish middle class was not nearly so powerful as the nobles. The Reformation in Scotland was initiated, and for a century dominated, by powerful nobles; on the popular side, the movement was led by John Knox, who was a Calvinist and an extremely popular preacher.

Shortly after the death of James V, the Three Estates, assembled in Parliament in 1543, authorized the reading of the Bible in the vernacular; this step was taken without waiting for its consideration by the clergy in council. At this time the spoliation of the monasteries also began. In 1560, Parliament accepted for Scotland a Calvinistic system of doctrine and abolished the jurisdiction of the Pope. By these acts Scotland became Protestant.

John Knox and other leaders who were commissioned to prepare a scheme of church organization, drew up the Confession of Faith, which was accepted by Parliament in 1560 and called the *First Book of Discipline* for the Church of Scotland. The ecclesiastical and educational system proposed in the *First Book of Discipline* was too radical and democratic to suit the ruling classes, and so was practically rejected by Parliament. Knox and his associates wished to have the church made autonomous, and given control over moral and religious affairs, both public and private, and over the education of the young. A proposal was also included to turn the wealth of the monasteries over to the new church for the schools. But the rapacious nobles were too greedy to accept these popular measures; they refused to pass the provisions and seized the spoils themselves.

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[19] See Edgar, John, *History of Early Scottish Education*, p. 212, Edinburgh, James Thin, 1893; also, articles entitled "The University of Glasgow" and "The University of Edinburgh," in *Cyclopedia of Education*, edited by Paul Monroe, New York, Macmillan, 1913.

The educational plan of the *First Book of Discipline* provided an admirable system of schools. Elementary schools were to be maintained within the bounds of every congregation; each town of any importance was to have a secondary school; and every city, a university. The system was to be supported out of church endowments, and controlled by church officials. Edgar points out that, had this scheme been adopted, a backward step would have been taken, inasmuch as grammar schools had "been freeing themselves from the control of the church and passing into the management of municipal authorities." [20] It is to be remembered, however, that Knox and his associates were attempting to set up a church controlled by all of its members, and that in the 16th century only a small proportion of the Scottish municipalities enjoyed the privilege of voting. The proposals of the *First Book of Discipline* won a good deal of popular approval, but the leaders of Scottish politics were not in favor of the plan. William Maitland thought that it meant "a domestic inquisition and a social censorship" and, on this ground, rejected it. Knox detected very different motives in the opposition to the plan; he wrote in his *History:* [21]

> Some approved it. . . . Others, perceiving their carnal liberty and worldly commodity somewhat to be impaired thereby, grudged, insomuch that the name of the *Book of Discipline* became odious to them.

Knox was defeated, but Scotland never forgot his ideal of a system of schools reaching every child and providing, for every lad of ability and industry, an open road from the parish school to the university. During every period of popular ascendancy, Parliament enacted legislation modeled upon that proposed by Knox; and the Scotch in America have played a significant part in promoting democracy in church, state, and school.

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[20] Edgar, John, *op. cit.*, p. 254.

[21] Knox, John, *History of the Reformation in Scotland.* WORKS OF JOHN KNOX, Edited by Laing, David. Edinburgh, Woodrow Society, 1848.

Summary

The educational results of the Reformation in Great Britain were:

(1) The Reformation resulted in England and in Scotland in the founding of Protestant national churches under the control and patronage of the respective governments. In these churches the ritual was in the vernacular, and there was special emphasis upon the preaching of and the circulation of the Bible among the people.

(2) As the Reformation was actually effected, it failed to satisfy the aspirations of numerous parties in Great Britain; consequently, dissent made itself felt toward the close of the 16th century, and led to the Puritan revolution and the Commonwealth in the 17th.

(3) During the period there were published a number of important books treating of theories of education and of plans for systems of schools. Most of these books and plans were concerned with the education of the upper classes, but the books of Vives and Mulcaster, and the plan of Knox contain some very democratic proposals. Ascham's *The Schoolmaster* was especially influential.

(4) The century saw the decline of Latin as a living language, and the victory of the principle called *Ciceronianism,* which proposed that literary Latin of the golden age of Roman letters should be made the absolute standard of Latin taught in schools. As a result, the study of Latin came to be approached generally through the study of grammar, and was pursued principally by composition and translation.

(5) Grammar schools were refounded in large numbers; in the universities, colleges were reëndowed, and many new colleges were founded. Notable foundations of the century were: Christ Church College at Oxford, Trinity College at Cambridge; and Merchant Taylors' School, and Rugby. The grammar schools educated political leaders of England.

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CHAPTER V

PROTESTANT SCHOOL REFORM (*Concluded*)

1. The Beginnings of Education in Colonial America

The vast system of American education began in the simple schools that were set up in the various colonies established on this continent. It was quite natural that each group of colonists should desire instruction in accordance with its own views of life, religion, and government. All these early attempts at education were the offspring of the Protestant Reformation. It is, therefore, fitting to begin the study of American education at this point, and to follow each succeeding movement of European origin with a discussion of the influences which it exerted upon the development of schools in the United States.

I. GENERAL SETTING OF COLONIAL EDUCATION

Early colonists. During the 17th century, permanent settlements were established in twelve of the thirteen colonies which made up the original states of the Union, Georgia being organized early in the 18th century. The region of the Hudson River and northern New Jersey was first settled by Dutch colonists from Holland; but late in the 17th century, England took over this portion of the country, and British settlers soon outnumbered the Dutch. The Swedes early established a successful settlement on the Delaware River; but this region also was soon acquired by Great Britain, and the Swedes, who mingled freely with the British, were largely assimilated.

The growth of the colonies was slow during the 17th century. Virginia, although first colonized in 1607, had in 1625 a population of only about 1,200 persons. Plymouth, Massachusetts, had but 180 settlers in 1624, and 300 in 1630. The next decade was one of heavy immigration of English non-conformists, and in 1642 the population had grown to about 3,000. The Massachusetts Bay colony grew rapidly from the first. In 1664, when England seized New Amsterdam, it had a population of 1,500. At the close of the 17th century there were about 270,000 persons in all the colonies. Of these, 105,000 were in New England; 55,000, in the middle colonies; and 110,000, in Maryland, Virginia, and the Carolinas. Boston, the largest city in the colonies, had a population of 7,000; Philadelphia had 4,000.

About the beginning of the 18th century the population began to increase rapidly. There was a large immigration of Scotch and Scotch-Irish, which continued until the American Revolution. Germans, Swiss, and Moravians, fleeing from religious persecution and economic distress brought on by wars and bad trade conditions, furnished thousands of immigrants. These types were most numerous in New Jersey, Pennsylvania, Virginia, and North Carolina. French Protestants, escaping from their country after the revocation of the Edict of Nantes, made up another important group that formed settlements in a number of states. These Huguenots adopted the English language, and soon entered into the social and religious life of their fellow Americans. From them have come many of the social, political, religious, and scientific leaders of the United States. The Germans, the Swiss, and the Moravians, on the other hand, clung to their ancestral languages and customs, and for a long time remained as distinct peoples.

Before Plymouth was settled, African negroes were brought to Virginia and sold into slavery; their children, unlike the children of European indentured servants, were born to a life of servitude. Negro slaves proved to be valuable property; consequently, in the 18th century, traders both in England and New England and planters in southern colonies were enriched by the traffic in slaves, as well as by their labor. For a number of reasons the institution of slavery is of interest to the student of the history of American education: it has affected schools and colleges of the country, especially those of the slave states; it has, moreover, furnished the 20th century with some of the most difficult of its educational problems.

Social and political background. The majority of the settlers in North America between 1607 and 1745 were British.

All the colonies had a handful of "gentry," who were descended from the ruling classes in Europe and who were chiefly engaged in agriculture; a number of artisans and small traders; and numerous laborers and servants. The people imported as servants fell into four classes. First, there were the negroes from Africa. Next, were the criminals transported to the colonies, where they were obliged to serve a term at labor before they were released. A third class was made up of political offenders, who were treated much as were the criminals. Fourth, there were great numbers of poor people who, in order to secure a passage to this land, had voluntarily entered into contracts to work in the colonies for a given number of years.

In Virginia and the other southern colonies generally, the plantation system favored the employment of cheap labor. While it did not prove profitable to work skilled artisans as slaves, free labor was, until the Industrial Revolution, unable to compete with slave labor in raising crops, building canals and roads, and in other unskilled work. When the government of Virginia recognized that large-scale production of tobacco would yield quick profits and result in the rapid colonization of the country, a policy favorable to the building up of large holdings of land was adopted. Officials of the colony and capitalists who imported laborers were granted large tracts of land. Colonists in all parts of America were accustomed to class distinctions; in Virginia and parts of the Carolinas the plantation system tended to perpetuate this practice. The class system based on slavery, which dominated the economic life of the South until the Civil War, largely determined the educational system of the region.

In New England throughout the colonial period, lumbering and shipbuilding, trade with the Indians, and fisheries furnished the chief basis for commerce. Most people outside the larger towns lived by farming, but farm products were, for the most part, consumed locally. The policy of distributing the land of the New England colonies was very different from that of Virginia. In New England, the land was owned by the towns, which made the original grants to individual members of the settlement. The government of New England towns was exceedingly democratic. Land was generally held in small blocks, and each of the freeholders had a voice in directing the affairs of government. This and other circumstances produced in New England a very different development of social life and institutions from that in the southern colonies. In Virginia, the Church of England was established by law, and the establishment was no dead letter. In Massachusetts, New Hampshire, and Connecticut, the Congregational was the established church. This church was made up principally of English Puritans, who believed that a church should be governed by its members but through officers whom they elected.

Colonial forms of government. Virginia was at first ruled by a governor and council. In 1619 the *House of Burgesses* was created as a representative assembly. The colony was divided into counties, and in each county a court was formed. For church purposes, counties were divided into parishes, and in each parish, church wardens administered poor relief. Members of the House of Burgesses were elected from the counties and incorporated towns, and one member was chosen to represent the College of William and Mary.

Massachusetts developed a representative body called the *General Court,* which shared with the governor and the council the conduct of colonial affairs. The colony also created a unit of local government known as the *town,* which was destined to exercise an important function in the development of education not only in New England but throughout the entire country.

The suffrage in all colonies was restricted to property owners. The qualifications prescribed for voters differed in the various colonies, and were modified from time to time. In some colonies, religious tests were added to property qualifications. Differences in voters' qualifications and in economic conditions caused great divergence in the proportion of persons participating in the government of the various colonies. It is estimated that about four-fifths of the men of Massachusetts were eligible to vote. In Philadelphia and in Virginia, the privilege of the ballot was limited to a very few.

In New England, all local affairs were handled by the towns, which were governed by qualified voters and by officers whom the voters elected. Voters of a town met at stated intervals and on call. At town meetings, the affairs of the town were discussed, officers were elected, and matters of administration and management were settled by action of the voters. Schools and roads were the special charge of the towns. Ministers of the established church were settled in towns, upon the vote of the congregation each was to serve. Local congregations exercised almost complete autonomy in the conduct of their affairs. A measure of uniformity was introduced into religious faith and practice by the law which established the Congregational Church in the colonies and organized all the congregations into an association.

The autonomy allowed to towns and to congregations prevented the crushing of dissent in New England. In some localities, fierce outbreaks of persecution took place; but even though the law against non-conformity was strict, toleration was practiced in most towns. The Massachusetts charter of 1691 eliminated the requirement of church membership for the exercise of suffrage.

During the 18th century the uniformity of Calvinistic belief was broken in New England. In the diversity of religious opinion which ensued, the ground was prepared for the secularization of education; and in the democracy of colonial government in New England, the foundation was laid for the American system of free schools. It will be remembered that during the 17th and 18th centuries the British people in the homeland were attempting to settle the problem of the nature and function of government according to democratic principles. As a result of this struggle, the Government of Great Britain became representative of the British people and directly responsible to them alone. During this same period, representative assemblies in America were watching their own institutions jealously, and were seizing every power they could from special interests and from the privileged classes. From the very first it was the policy of popular bodies to control schools and colleges. Since the American Revolution, a fundamental principle of the political theory of this country has been the idea that all bodies which govern schools should be responsible to the will of the people.

In Virginia, in New York, and in five of the other colonies, the Church of England was established by law. In Virginia the head of the church was a *commissioner,* who represented the Bishop of London. At various times in the colonies in which the Church of England was established, attempts were made to require schoolmasters to have episcopal license. However, the law was, for the most part, everywhere a dead letter. There were a few instances of persecution for religious belief; but after the Revolution of 1688, dissenters were generally tolerated.

In the 18th century, Presbyterians became very numerous in Virginia, the Carolinas, and the Middle Atlantic States. They occupied sections in which most of the farms were small, and on which proprietors performed the work with their own hands. In the eastern parts of these colonies, where large estates were numerous and slavery was established, there was little demand that education and government be made popular. But in the other sections, a different attitude obtained.

II. Colonial Schools

Virginia: 1607–1624. Although there were only a few children of European parentage in Virginia before 1624, efforts to establish an educational system were begun by 1618, at the latest. The King of England, the Virginia Company, and a number of philanthropic individuals interested themselves in plans for the education of both English and Indian children. Liberal contributions of land and money were made for the undertaking. Improvements had actually begun on properties set aside for the support of education, when, by an Indian massacre in 1622 and by the revocation of the Virginia Company's charter in 1624, these early efforts were first checked and then terminated.

Virginia: 1635–1745. About 1635, Benjamin Symms gave two hundred acres of land and eight cows as an endowment for a free school in Elizabeth County. The minister and church wardens of Elizabeth City parish, together with the county justices of peace, were to be trustees of the fund. The bequest of Symms was the first of many contributions made in Virginia for the founding of schools; such endowments were principally in land, livestock, and slaves. Some of the endowments were actually given to the parishes of the Church of England. Records of county courts and parishes furnish evidence that the parish schools were regarded as agencies of the Established Church and, consequently, they were subject to the control of parish, county, and colonial officials.

The courses of study in the schools varied. The church catechism was generally taught. Most schools offered elementary instruction only, though in a few Latin and Greek were begun. In certain parish schools there was no tuition; in others, fees were charged, but children of parents who were unable to pay were admitted free. Wealthy families generally employed tutors. There were, moreover, some private schools supported by tuition charges. It was a common practice for clergymen to teach small groups of more advanced scholars. In such schools Latin, Greek, and the French language and literature seem to have been the subjects usually studied.

A letter written in 1698 by William Fitzhugh, of Virginia, to his agent in Bristol affords a glimpse of the education of a boy of a wealthy Virginia family in the 17th century.[1] Fitzhugh had employed as a tutor for his son "a most ingenious French gentleman." When the boy was eleven and a half years old, he could "hardly read or write a word of English"; he could, however, "read, write, and speak French," and had "run over the rudiments of the Latin grammar." The boy was sent to England to complete his education.

Hugh Jones, in his work *The Present State of Virginia* (1724), wrote of the elementary schools of the colony: [2]

> In most parishes there are schools (little houses being built on Purpose) where are taught *English* and *writing*; but to prevent the sowing of the Seeds of Dissention and Faction it is to be wished that the masters or mistresses should be such as are approved or licensed by the Ministry and Vestry of the Parish or justices of the county, the clerks of the parishes being generally most proper for this Purpose or (in case of their incapacity or refusal) such others as can best be procured.

Apprenticeship. Until the Industrial Revolution, apprenticeship remained one of the most important agencies of education in Europe and the United States. All of the colonies had statutes of apprenticeship, and girls as well as boys were apprenticed.

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[1] "Letters of William Fitzhugh," in *Virginia Magazine of History and Biography,* Vol. 6, No. 1, pp. 67–70. Richmond, 1898.

[2] Reprint, p. 70. New York, Joseph Sabine, 1865.

Apprenticeship served two very different vocational levels. In the first place, boys of economically independent families were apprenticed to highly skilled and remunerative trades and professions. The period of such apprenticeship began after the boys had received a high degree of education. These apprentices not only acquired the highly specialized training and information which belonged to their professions, but they made contacts with members of the trade or profession upon which they were entering and became familiar with its ideals and usages. Chemists, physicians, architects, carpenters, shipbuilders, ships' officers, lawyers, and members of a number of other professions and trades high in the social and economic scale received as apprentices a part, at least, of their vocational and professional training. The wealthy John Carter, of Virginia, provided (1669) by his will a fund to pay the fee for his stepson, in case his wife "put her son out apprentice."

Apprenticeship served, too, as a means of controlling the education and labor of the poor. A poor boy was usually apprenticed to an occupation low in the economic scale, in which his labor would yield a return while he was still young.

Contact with European institutions. All through the colonial period, Virginia attracted from England college professors, schoolmasters, rectors, parish clerks, and teachers of elementary schools. Many schoolmasters came as indentured servants. During the period, wealthy Virginians made a practice of sending their sons to Great Britain for instruction at English schools and universities, especially at the Inns.

Dutch colonial schools. It was the custom of the Dutch Government to require a schoolmaster to go with each group —however few in number—departing for a colony. The schoolmaster had to be a member of the Dutch Reformed Church, and qualified by piety and education to take charge of the instruction of the young. During the absence of the pastor he was expected to conduct divine services. The educational policy of the Reformed Church, which followed the Calvinistic faith, was finally formulated at the Synod of Dort in 1618.

The West India Company, conducting the settlement of New Netherland, bound itself "to maintain good and fit preachers, schoolmasters and comforters of the sick." The establishment of schools and the appointment of schoolmasters rested conjointly with the company and the church authorities in Amsterdam, but the supervision and the management of the schools were in the hands of the deacons of the local church. These schools were elementary vernacular schools. Private schools were likewise in operation in New Amsterdam soon after its founding. The schoolmaster of a public school was usually also, *ex officio*, clerk, beadle, chorister, and visitor of the sick.

The first schoolmaster of New Amsterdam was Adam Rolandsen, who conducted the town school from its founding, in 1633, until 1639.[3] It was a regular parish school, where reading, writing, arithmetic, and religion were taught. By 1659 the inhabitants felt the need in New Amsterdam of higher instruction; steps were taken to secure an academy, or classical school, and it was accordingly established by the West India Company and the city authorities. It continued until closed by the English authorities in 1673. Elementary and Latin schools of a private character were also conducted in New Amsterdam.

Under the Dutch regime, we are reliably informed, "schools existed in almost every town and village" in New Netherland. Furthermore, "the whole system was but a counter part of that to which the settlers had been accustomed" in Holland. These were public schools dispensing the elements of learning gratuitously, the teachers receiving their appointment and remuneration from the constituted authorities.

Colonial schools in New England. The New England town, as has been indicated, was an exceedingly important political and social institution. The colonists who founded Boston had scarcely organized their town when a town meeting was called in 1635 and it was decided to establish a school. This was the first public, Latin grammar school to be established in the American colonies. Subscriptions were taken the next year "towards the maintenance of a free schoolmaster," and the schoolmaster elected was Daniel Maud. Later the town granted one tract of land for a schoolmaster's garden, and another tract to be rented, the income from which was to go to the support of education. In 1660 the colony granted a thousand acres of land as an endowment for the schools of Boston.

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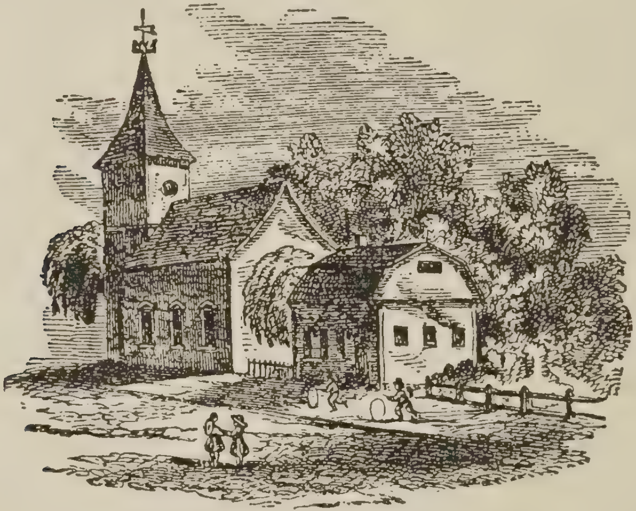
[3] This institution is still in operation.

Salem's school was founded in 1637. Two years later a rental of twenty pounds a year was placed on Thompson's Island, which belonged to the town of Dorchester; it was agreed that this rental should be "paid to such a schoolmaster who shall undertake to teach English, Latin, and other tongues, and also write." Inhabitants of Roxbury, recognizing "how necessary the education of their children in literature will be, to fit them for public service, both in church and commonwealth," opened a school.[4]



THE BOSTON LATIN GRAMMAR SCHOOL IN EZEKIEL CHEEVER'S DAY.

The course of study in these early New England schools was quite similar to that in English schools of the same period. Ezekiel Cheever, the most famous of Boston grammar-school masters, first took his boys through the Latin grammar, which he himself had prepared; then, through the *Colloquies* of Corderius; and finally, set them to translating the classics and to writing Latin prose and verse. In the earliest days, New England schools were managed through town meetings, though frequently temporary committees were appointed to look after them. Dorchester early elected trustees to care for school funds, and to elect, pay, and, if need arose, remove the schoolmaster. Ministers were influential in school affairs. A Massachusetts law of the late 17th century required that "grammar masters be approved by the ministers of one's own town, and that of two adjacent towns."[5] As time went on, the practice of delegating the control of the school to a board or committee grew in favor, until it became the universal practice.

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[4] Small, W. H., *Early New England Schools,* p. 6. Boston, Ginn, 1914.

Early Massachusetts school ordinances. When, between 1637 and 1660, New England was permitted to manage her own affairs with little or no interference from England, the Puritans seized the opportunity to issue ordinances for promoting education in the colony. In this, they acted precisely as did the champions of representative government in England and in Scotland. The first of these ordinances, passed in 1642, read, in part:[6]

> This court, taking into consideration the great neglect of many parents and masters in training up their children in learning and labor, and other employments which may be profitable to the commonwealth, do hereupon order and decree that in every town the chosen men appointed for managing the prudential affairs of the same shall henceforth stand charged with the care of the redress of this evil.

The ordinance goes on to charge the selectmen to see that children have "ability to understand the principles of religion and the capital laws of this country"; to fine parents and masters who fail to teach their children or to put the children to suitable work; with the consent of a magistrate or court to apprentice the children of such parents as they find "not able and fit to employ and bring them up"; to supervise the conduct of children; and to provide materials and tools with which those set to work could be employed.

Virginia, also, passed during the 17th and 18th centuries a number of ordinances for the protection and care of orphans and of children of the poor. The ordinances of both colonies were influenced by the Poor Relief Act of England. The Massachusetts ordinance, however, went beyond the English statutes; it clearly reflected the Calvinistic doctrine that the moral and religious welfare of the people is the responsibility of all the people, acting through the church-state; the policy respecting matters affecting religion and morals was to be laid down by the church and enforced by the magistrates.

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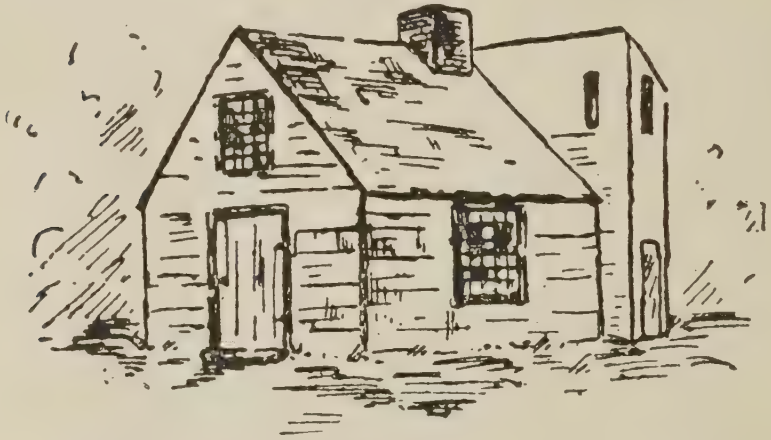
[5] Martin, G. H., *Evolution of the Massachusetts Public School System*, p. 78. New York, D. Appleton, 1904. See also Small, W. H., *op. cit.*, p. 321.

[6] Hinsdale, A. B., "Documents Illustrative of American Educational History," in *Report of the United States Commissioner of Education* (1892–1893), Vol. II, p. 123. See also *Massachusetts Colonial Records*, Vol. II, pp. 6–9.



The Town School and Watch House at Dedham, Massachusetts, 1648. One of the First Free Schools.

The General Court of Massachusetts issued, in 1647, an ordinance on education which marks a significant turning point in the development of common schools. This ordinance, which has been popularly called "the old deluder act," was strictly in accord with the spirit of the regulations found in the Synod of Dort, in Knox's famous proposal for the schools of Scotland, and in later legislation passed by the Scotch Parliament in 1646. The Massachusetts education ordinance declared:[7]

> It being one of the chief projects of that old deluder Satan to keep men from the knowledge of the Scriptures, as in former times by keeping them in an unknown tongue, that so in these latter times by persuading from the use of

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[7] Hinsdale, A. B., *op. cit.*, p. 123. See also *Massachusetts Colonial Records,* Vol. II, p. 203.

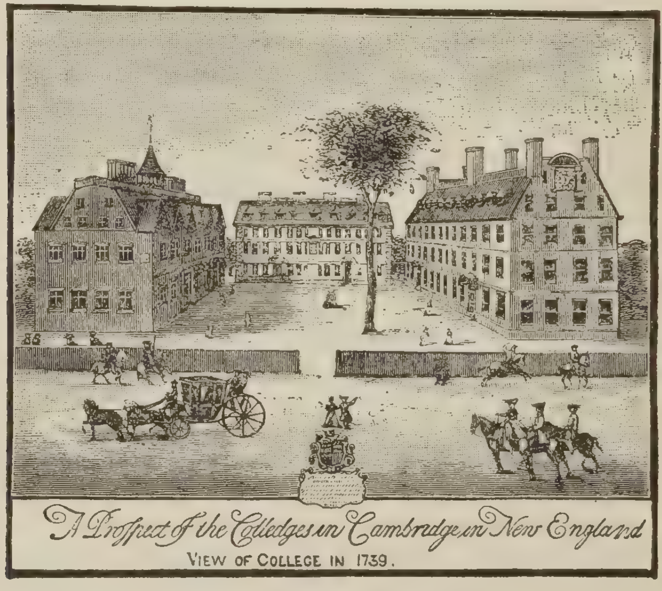
> tongues, so at least the true sense and meaning of the original might be clouded by false gloss of saint-seeming deceivers, that learning may not be buried in the grave of our fathers in the church and commonwealth, the Lord assisting our endeavors:
>
> *It is therefore ordered,* That every township in this jurisdiction, after the Lord hath increased them to the number of fifty householders, shall then henceforth appoint one within their town to teach such children as shall resort to him to write and read, whose wages shall be paid either by the parents or masters of such children, or by the inhabitants in general, by way of supply, as the major part of those that order the prudentials of the town shall appoint: *Provided,* Those that send their children be not oppressed by paying much more than they can have them taught for in other towns; and
>
> *It is further ordered,* That where any town shall increase to the number of one hundred families or householders; they shall set up a grammar school, the master thereof being able to instruct youth, so far as they may be fitted, for the university: *Provided,* That if any town neglect the performance hereof above one year, that every such town shall pay five pounds to the next school until they shall perform this order.

Not all towns obeyed this ordinance, and it was found necessary to increase the amount of the penalty for neglect in establishing and maintaining schools. Similar ordinances were passed in other New England colonies.

III. Establishment of Colonial Colleges

The Nordic revolt in England, Scotland, and the Continent was largely directed by men in the universities. In its turn, the great reform movement brought new spirit and purposefulness into all the institutions that accepted the Protestant point of view. While the training of pastors was not the only function of higher education, the study of theology retained its ancient preëminence. Very naturally the leaders of the American colonists—particularly the Puritans, many of whom were men of university training—early became interested in establishing colleges for the training of pastors.

Harvard. The colonists of Massachusetts Bay, "seeing the benefit that would accrew to the Churches of Christ and Civil Government . . . upon learning," began the work by establishing Harvard College.[8] The General Court of Massachusetts agreed, in 1636, to give four hundred pounds toward the founding of such a school or college. A little later the court was encouraged by a substantial legacy from the Reverend John Harvard and a great number of other gifts, ranging from the three hundred pounds of one donor to the "one small trencher salt" of another. "The public hand of the State added the rest." [9]



A Prospect of the Colledges in Cambridge in New England

VIEW OF COLLEGE IN 1739.

HARVARD COLLEGE, 1739.

Harvard was not actually opened until 1638. The institution was named for John Harvard; the town in which it was located was called Cambridge. It was for two years a sort of grammar school, but in 1640 the Reverend Henry Dunster was made president, an office which he held for fourteen years. Dunster made the institution a real college. In 1642 the

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[8] Johnson, E., *Wonderworking Providence,* pp. 187–188. Reprinted, New York, Scribner, 1910.

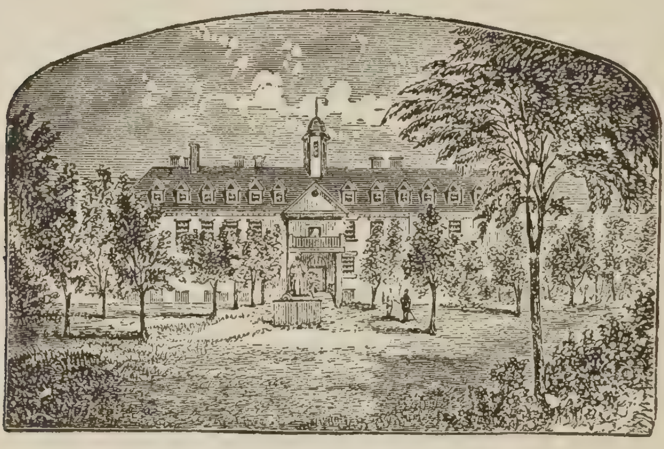
[9] Peirce, Benjamin, *History of Harvard College,* Vol. I, p. 17. Cambridge (Massachusetts), Brown, Shattuck and Company, 1833.

Massachusetts General Court passed an act "establishing the overseers of Harvard College." In 1650 a charter was issued creating for the management of the institution a corporation which consisted of a president, five fellows, and a treasurer. All property of the college was vested in the president and five fellows, who, under the general control of the overseers, were to direct the affairs of the college. It was long the policy to choose tutors of the college as fellows, but this practice fell into disuse.

There gradually evolved to control the college—at Harvard as later at the College of William and Mary—a corporation made up principally of persons not engaged in teaching or research. The subsequent practice in American colleges founded after the close of the 17th century has usually been to exclude members of the teaching staff from such a corporation. The creation in America of this type of college or university corporation seems to have been due, first, to the demand of Americans that their institutions be made responsible to the will of the people; and second, to the further fact that, from the founding of Harvard to the present time, there have been constant appeals, either to the populace or to the legislative officials whom they elect, for funds for the support of colleges and universities. The century and a half in which the form of government of American colleges was being shaped covered the period in which the question of responsible civil government was being determined in both Great Britain and America.

During the first century of its existence, Harvard College was small; its enrollment seldom exceeded twenty students during any one term in the 17th century. The college received its income from various sources, including the revenue from a ferry over the Charles River. Massachusetts made grants to it; and liberal gifts were made by individual supporters in England and the colonies. Until the time of the American Revolution, Latin, Greek, and Hebrew studies absorbed most of the attention of the students; logic, metaphysics, and theology also comprised a part of the curriculum.

The College of William and Mary. A group of Virginians led by James Blair, commissary of the Church of England in the colony, began a movement to establish a college in Virginia. Blair was sent to England, where, in 1693, he secured a charter for a board of visitors who were to be a temporary corporation for the establishing and governing of the College of William and Mary, in Williamsburg, Virginia. The college was to have a president, or rector, and six professors. The Bishop of London was to be its chancellor. When its organization was completed, the visitors were to transfer the institution and all of its resources to the president and the professors, who were to form the corporation of the institution. This transfer was made in 1729, with the professors subscribing to the Articles of Faith of the Church of England and taking oath as to their loyalty to the British Crown. There followed a long dispute respecting the relation of the faculty to the board of visitors: the faculty resisted the control of the visitors and appealed to the Bishop of London against the board's decisions. After the American Revolution, however, the board of visitors assumed control of what was left of the college.



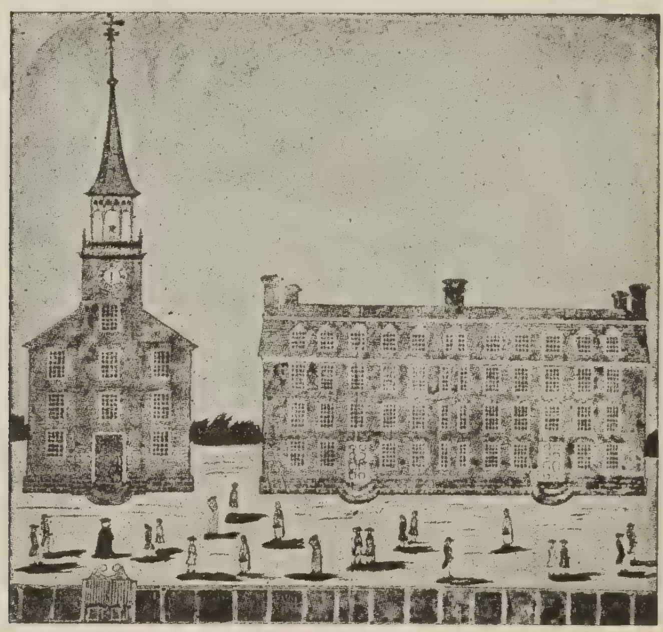
William and Mary College, 1874.

The purpose of the founding of William and Mary was declared by its charter to be: "that the Church of Virginia may be furnished with a seminary of Ministers of the Gospel, and that the youth may be properly educated in good manners, and that the Christian faith may be propagated among the Western Indians to the glory of Almighty God; to make, found and establish a place of universal study or perpetual college of divinity, philosophy, languages, and other good arts and sciences."

William and Mary received liberal contributions from private sources. The planters of the Virginia colony subscribed twenty-five hundred pounds before the institution was chartered. There were liberal gifts made in England, the most notable being the bulk of the income from the estate of the philosopher Robert Boyle. The executors of Boyle's estate purchased a property, known as the Brafferton estate, at a cost of fifty-four hundred pounds; the income from the estate was to be applied toward "the propagation of the Gospel among the infidels." A sum of ninety pounds annually of this income was sent to New England, where part of it went to the support of two missionaries, and the remainder to Harvard College. William and Mary received all of the balance, with which it was to maintain one Indian scholar for each fourteen pounds received. The bulk of the support of the college, however, was received from fees and from public grants. The King and Queen of England gave the college two thousand pounds out of the quitrents and, in addition, a large body of land. The Virginia Assembly granted the institution an income from an excise on furs and on spirits imported and from a tax on tobacco and on furs exported, and one-sixth of all surveyors' fees as well. It was, as Thomas Jefferson believed, a public institution. Hugh Jones, the first professor of mathematics in the college, contended, moreover, that the college should offer courses in history, and should be recognized as the training school for the civil service of the colony.

When the organization of the college was completed in 1729, there were two professorships of divinity, one of Greek and Latin, one of mathematics, one of moral philosophy, and the professorship of the school for the Indians. There was also a grammar school. Philadelphia and Williamsburg were the two centers in the colonies where, before the American Revolution, the scientific discoveries which were arousing all Europe were known and discussed. Williamsburg, the site of the College of William and Mary, was a great center for Whig lawyers and politicians. Led by George Wythe, these men laid the foundation for the long succession of Virginia champions of constitutional government. Thomas Jefferson, James Monroe, Peyton Randolph, John Marshall, and John Tyler are but a few of the illustrious names upon the alumni roll of the college.

Yale College. In 1701 the General Court of Connecticut chartered a "Collegiate Institute" out of which developed Yale College, in 1745, and Yale University, in 1879. The charter states that the college was organized for "instructing youth in the arts and sciences, who may be fitted for public employment both in Church and Civil State." The original governing body of the college consisted of eleven clergymen. At the time of the founding of Yale, a theological dispute, which ultimately divided the Congregational Church, alienated a number of the clergy of New England from the support of Harvard. Yale was founded by the party opposed to liberal theology. Cotton Mather was a prominent member of this group; he lent his strength to the support of the new college in Connecticut, and enlisted for it the interest of Elihu Yale.



YALE COLLEGE, 1786.

Elihu Yale, a native of New Haven who made his home in England, had accumulated a fortune in the service of the East India Company. He made liberal gifts to the college which, in 1745, took his name. Bishop Berkeley was another early benefactor of the college. Throughout the colonial period the General Court of Connecticut made grants to the college. During the early years, students gaining admission to Yale were those "found expert in both the Greek and Latin Grammars, and also grammatically resolving both Latin and Greek authors, and in making good and true Latin." Every student was required to "exercise himself in reading Holy Scriptures by himself day by day."

2. Retrospect of Protestant Education

Review of accomplishments. If one compares the condition of culture and education at the close of the 16th century with that before the Nordic revolt, he is enabled to evaluate quite definitely numerous developments which took place during the period.

The new ideal. This era produced new ideals of personal worth and, in consequence, new aims for the schools. The Germanic people had slowly risen to a consciousness of power, and now asserted intellectual and moral self-determination. They rejected the old Catholic ideal, which was too narrow, and set up others which were truer expressions of their own inner strivings. The old ideal of self-repression and obedience held that this life was merely a preparation for the life to come. Asceticism—that is, the renunciation of all desires as the means of happiness—was foreign to the Germanic nature. Moreover, it must be noted that this old ideal of the Christian life had not been wholly consistent. It upheld one standard of ethics for the religious, but quite another for the secular life.

The Roman Church declared marriage a sacrament, and at the same time pronounced celibacy more holy than marriage, and virginity, than chastity. It taught that perfection of the spirit comes through the subjugation of the flesh. Long fasts, daily scourgings, coarse clothing, hard beds, and frequent prayers had long formed the ascetic regime of pious souls. In practice, however, this monastic aim had broken down, and, as a concession to the weakness of human nature, sexual and other forms of immorality were condoned. Externalism in religion and open licentiousness went hand in hand, although in direct contradiction to true Christian principles and to the integrity of the ethical spirit. Furthermore, this ideal of monastic piety could not be universally practiced. However, it must be acknowledged that the ascetic life, with its vows of poverty, celibacy, and obedience, had unquestionably performed admirable services in restraining the wildness of Teutonic barbarians. Nevertheless, after institutionalism had performed its disciplinary task and had run its course, it had to give place to the new ideal of inner and outer consistency.

The Protestant ideal replaced the authority of the church as the representative of God, with the authority of the Scriptures and direct obedience of the individual to the Will of God. Ritualism gave way to inner piety; good works, to goodwill; blind obedience, to inner faith. Holiness was held no longer to be self-renunciation or world-renunciation, but rather the benevolent spirit which lives the normal life of the human being in social relations, without yielding to sensuality or selfish interest.

The educational aim of the Protestant world attempted to combine the best ideals of the past with the new sense of individuality and personal worth. From the ancient Greek and Roman worlds, it borrowed the ideal of elegance in expression, of rational inquiry, and the concept of the public man. From chivalry, it took the deepening appreciation of refined manners. From Christianity, it acquired the new ideal of personal piety. The three elements—knowledge, virtue, and piety—were not valued equally by all educators, nor were they fully attained by any; but some sort of integration was generally attempted wherever the new Protestant culture was established.

Rise of the teaching profession. Outside of the universities there was no teaching profession before the 16th century. Teaching had been simply a temporary occupation, an apprenticeship to the priesthood, and not the business of a lifetime. The Reformation period brought about a marked change so far as the teaching office was concerned. The wandering bacchants were suppressed. A new spirit was stirring in the schoolroom, and teaching was accorded a new dignity. The great reformers ascribed an exalted significance to it. Gradually teachers were employed for a longer tenure of office. Cities searched for suitable rectors and assistant teachers, and their appointment was often an event. They married and settled down for a life of service. Signal honors were often conferred upon them, even by kings and princes. Few centuries have produced a list of greater schoolmasters; the roll included Melanchthon, Sturm, Neander, Trotzendorf, Wolf, Corderius, Colet, and Lily. Celebrated as were the schoolmasters of the Latin schools, little advancement, however, was made by the teachers of vernacular schools in any land.

Surveys, supervision, and certification. Most of the aspects of modern education which are today of great importance had their origin in the Protestant school reconstruction. The church-school inspection undertaken in Saxony by Luther and his associates in 1527 was the first school survey. After that time many similar surveys were made in the cities and principalities throughout Germany. Reports of the conditions of the schools were recorded. The recommendations usually took the form of church or school ordinances, of which there were several hundred. The results of one of these surveys, in Strassburg, led to the establishment of Sturm's famous gymnasium. The same was true of Calvin's academy in Geneva.

The supervision of instruction was likewise begun at this time. The most peculiar effort of this kind was the supervision of family life and teaching which Calvin instituted in Geneva, and which was practiced by his followers generally. Such inspection was prescribed by the Reformed Church at the Synod of Dort in 1619, by the Scottish Church, and by the Puritans of New England in a law of 1642.

Not only was home instruction inspected, but likewise the teaching in all Calvinistic schools. This supervision was in the hands of the ministers and elders. The original purpose of inspection was not concerned so much with the effectiveness of the instruction; of chief moment was the desire to check any heretical doctrines which might be imparted to the children. It was, therefore, not so much supervision as censorship.

In Germany the schools were regularly inspected by the church officials: first, by the local pastor; then, by the superintendent (an officer of the Lutheran Church who took the place of the bishop); and lastly, by the state consistory. The first care of all inspectors was to watch the observance of school regulation; their duties included publishing these rules and reforming the schools. Inspection was by no means so rigorous among the Lutherans, however, as among the Calvinists.

Attention was now directed, also, to the examination of teachers. This was provided for in many of the school ordinances of Germany, as well as in the Calvinistic regulations.

Education of girls. It has frequently been assumed that the education of girls began with the Lutheran Reformation; but this view is far from the truth. Discounting, merely because of its special character, the education which was given girls in monastic institutions, one still finds that, under the system of chivalry, the training of girls was of great importance. Although it was confined to a small and aristocratic circle and provided, less for intellectual emancipation, and more for external embellishment and training in domestic arts and management, nevertheless it was a good beginning. Long before the Reformation, moreover, girls in the cities of the Netherlands—even in the lower classes of society—were given an education. Schools of a public character were provided, and it was not uncommon for girls to read not only the vernacular but also other languages, such as Latin and French. The advanced position of female education in the Netherlands prompted the discussion of the subject by Erasmus and the treatises of Vives; the Netherlands were far in advance of Germany, France, and England in this matter of general female education. But in all these countries, schools for girls were to be found in the larger centers of population; so far as the wealthy and privileged classes were concerned, private tutors were generally employed to give instruction in the home.

Although the Reformation did not originate education for girls, it gave the movement a fresh and vigorous impetus. In Holland, coeducation sprang up in the elementary vernacular schools. Luther appealed for instruction of girls "an hour or two a day," and made no sex discrimination so far as religious instruction was concerned. Bugenhagen, in his Brunswick ordinance in 1528, provided for schools for girls in every quarter of the city. On the other hand, the more conservative Melanchthon made no mention of girls. Though many of the school ordinances did make provision for female education, except for the aristocracy, education of a higher order was not generally provided for young women.

City and state authority over schools. In a general way, the most important fact of Protestant school reorganization was the emergence of the state as the new agent for the establishment and maintenance of schools. In northern Europe, all through the Middle Ages the church had taken the initiative and jealously guarded its prerogative of educating the young. On the other hand, in Italy the tradition of municipal control of the academies had come down from ancient times. In northern cities, Latin and vernacular schools had gradually been founded by the municipal authorities and generally with the agreement of the church. Only in the Netherlands, however, did the towns subordinate the church to their authority. Elsewhere the church held well-nigh undisputed sway.

With the separation from the Roman Church, the question of the relation of church, state, and school became, for the first time, a matter of heated controversy. Four main positions as to the relation which should obtain between these institutions were held at this time.

(1) The Catholic position remained as it had always been, the church asserting its divine authority over the state and education.

(2) In his break with Rome, Luther sought refuge in civil power as the supreme authority, divinely instituted to govern in all earthly affairs. He, therefore, subordinated the church and the school to the power of the princes and municipal authorities. Church buildings became the property of the state; pastors became, in a large measure, civil servants; and the religion of the prince was the faith of all his subjects. The school became a civil institution, established and controlled by the state and municipalities, though still closely identified with the cultural and instructional interests of the church.

(3) Calvin reached quite a different conclusion. It may be stated that he was one of the first in modern times to formulate a clear-cut theory of the functions of civil government. According to his view, the two institutions, church and state, have one and the same ultimate purpose; that purpose is to realize the Will of God on earth. But the two institutions

function in different fields. The church is the only interpreter of the Will of God, and, therefore, it has the right and duty of directing the state. The office of the state is to carry out the divine Will in all matters pertaining to the moral and spiritual welfare of the people. The church and the state function as two separate organs, which together form a unitary organism. This organic view of the relation of church and state had its origin in the theocracy of the Old Testament.

According to this Calvinistic theory, church and state coöperate to discipline, train, and instruct the people. Church and state, therefore, constitute one comprehensive educational institution, combining family, church, state, and school into a functional organization. In the operation of this organic plan, the school is supported by the state, but its aim, methods, curriculum, regimen, and teachers are controlled by the church. Moreover, this theory recognized the educative function of the family and the right to supervise its activities. This plan proved highly effective, but like the others it is lacking in genuine democracy.

(4) There arose at this time a fourth point of view, which was destined to become the policy of the New World. This was the doctrine of the Anabaptists, who held that church and state must be entirely separate. They contended that religion is no business of the state, but is purely a private and individual concern. At a stroke, this point of view does away with all religious intolerance. However, since every European state of that day clung tenaciously to a particular established faith, there was no possibility of putting this doctrine into practice. Having no connection with the schools established under joint state-church action, these religionists did not flourish in any country except Holland, where education was directly controlled by the state alone. It was, however, this policy of separation of church and state which, adopted by the Constitution of the United States, brought about the secularized school system of our American states.

In those Protestant lands where the Calvinistic and Lutheran points of view prevailed, the foundations of state systems of schools were laid which have remained largely unchanged to the present day. In laying such enduring foundations, no other period of educational history has had such an opportunity. The elementary school, the secondary classical gymnasium, and the universities—all as organized in the 16th century have remained the general European models of educational institutions.

The study of education. The disintegration of medieval institutions, which had molded human life for a thousand years, challenged the intelligence of European scholars. As a consequence, for the first time since ancient days the study of educational problems demanded attention. Just as the great reformers went to ancient literature for their theology, rhetoric, and science, so they sought information on pedagogy from the same sources. Nor was their search in vain. Among the ancient works which had been rescued from the dust and mold of the centuries were such priceless treasures as Cicero's *De Oratore,* Quintilian's *De Institutione Oratoria,* and Plutarch's *On the Education of Children,* not to mention the works of Plato, Aristotle, and other authors. As the scholars of the Renaissance had found in the ancient civilization culture, eloquence, beauty, philosophy, wisdom, and piety, so the new leaders felt that the education which had produced these grand products of the human spirit ought to be for all time the true pedagogy. In this educational literature they discovered, clearly discussed, all the principles of school organization, aim, method, and curriculum. Quintilian and Plutarch flourished once more in Erasmus, Mulcaster, Ascham, Sturm, Melanchthon, Elyot, and others. To be sure, the Reformation teachers borrowed and imitated too much; but their models were good, and, it must be remembered, originality was yet in its infancy. Nevertheless a few epochal works were written, such as those of Erasmus, Luther, Vives, Rabelais, and Mulcaster.

Some weaknesses of sixteenth-century education. In spite of its numerous efforts for reform and its significant accomplishments, education during this eventful era had many weaknesses, which became more and more apparent as time wore on. Many of these weaknesses were due to the humanistic ideal and the lack of understanding of the educational process; others were due to outer circumstances over which education had little direct control. Some of these difficulties and faults are now considered in detail.

(1) A high degree of progress was rendered impossible by the interminable and irascible religious conflicts which occurred during the period. Quarrels over theological questions, many of them trivial and nearly all impossible of final settlement, divided the peoples and sapped their energies. The fiendish effort of the Spanish monarchy to crush the growth of evangelical religion in the Netherlands greatly injured the progress of schools in that country. Only superhuman efforts prevented complete devastation there. Religious conflicts and intolerance likewise greatly hindered the growth of education in Germany.

(2) From the glowing generalizations of educational historians, one is led frequently to assume that elementary schools became well-nigh universal during this age. Such a conclusion is, however, quite erroneous. In Germany, even down to the close of the century, the schools were for the most part confined to the cities and larger towns. Most of the villages and country places were quite destitute. There were numerous reports of the wretched conditions which generally prevailed in the smaller parishes, where the duty of instruction was imposed upon the sexton of the church. In 1556 there were only seven schools in all the villages of lower Saxony. In Nassau it was found: [10]

> . . . all the sextons, with but one exception, were unable to read, and this one had no inclination to hold school; in only three places did the pastors show a willingness to assume the burden of giving instruction to the children.

In the Palatinate, a report of a survey in 1556 stated: [11]

> The people are undisciplined and wild; they live from day to day like unreasoning cattle.

Similarly, we are informed of conditions existing at that time in Lippe: [12]

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[10] Robbins, Charles Leonidas, *Teachers in Germany in the Sixteenth Century,* p. 25. New York, Teachers College, Columbia University, 1912.

[11] Janssen, Johannes, *History of the German People at the Close of the Middle Ages,* Vol. XIII, pp. 40–41. Tr. by A. M. Christie, London, K. Paul, Trench, Trübner & Co., 1909.

[12] *Ibid.,* p. 39.

> In almost all the hamlets and villages the young lads are growing up without any teaching or discipline just like unreasoning beasts, and they know scarcely anything about God and religion.

Similar conditions of abysmal ignorance were found almost everywhere, and not alone in Germany but in other countries as well. Sporadic efforts were made to establish schools in the villages and country places, but the prime requisites for educational work were absent; the people had little incentive to seek instruction for their children, for the condition of the peasantry was no better than serfdom. Moreover, buildings and funds for the support of schools were lacking. Even if these materials had been secured, there was still the difficulty of finding teachers, since, as yet, no one was being prepared for the teaching office. As a matter of fact, many of the Reformation leaders, not only in Germany but elsewhere, despised the vernacular schools, and looked upon the study of the vernacular as detrimental to the learning of Latin.

(3) But all was not going well even in the town Latin schools. Grave weaknesses became more and more apparent. The high promises of humanistic culture were not being realized. First, too much was expected from the study of classical literature. Its effects upon character forming were greatly exaggerated. During the period of the introduction of humanistic culture, it excited unbounded enthusiasm. Wild and dissipated young men left their cups and dissolute ways, and concentrated all their energies upon the beauty of literary expression and the ethical wisdom of classical authors. The new learning acted as a subtle magic upon these students just as any intense, new moral enthusiasm will always do. Scholars attributed this new force to the wisdom found in ancient literature, in its proverbs, apothems, biographical materials, and ethical reflections upon human life. Various texts, such as the *Colloquies* of Erasmus and of Corderius collected these materials for the instruction of the youth. Needless to say, young students profited little from these pious admonitions of ancient writers. With their attention necessarily and completely centered upon the acquisition of the vocabularies and grammar of the languages, the pupils did not reflect upon the sentiment expressed in their texts. Fur-

thermore, even though humanistic education, at its best, aimed to inculcate love and appreciation of classical literature, the youths spent so much of their time upon the drudgery of grammatical constructions, translation, and composition that only rarely did anyone acquire a real appreciation of the beauties of literary form.

(4) An extreme form of *Ciceronianism* seized the schools. The teachers strained every nerve and used every artifice to teach young Germans, Frenchmen, and Englishmen to speak Latin with the fluency and elegance of Cicero. They were to employ his vocabulary, his phrases, and his mannerisms of delivery. The most absurd results appeared in this effort to confine speech to the Ciceronian diction. God, the Father, had to be Jupiter Optimus Maximus; Jesus, the Son, Apollo or Aesculapius; the Virgin Mary, Diana. When the pupil mentioned the *church,* he had to say the *sacred assembly;* or the *state,* the *republic.* Erasmus, who wrote and spoke the purest Latin of all men in northern Europe, exposed the absurdity of this tendency; he satirized it in his *Dialogue Ciceronianus,* in 1528. However, criticism was fruitless, and the schools directed every effort to produce young Ciceros even though there was little or no genuine need for the use of Latin eloquence. The language was no longer employed in the courts of law, nor in diplomacy, preaching, popular assemblies, or in the conduct of business. The only occasions on which Latin was used were embassies to Rome, when Latin orations were required by force of tradition. To be sure, Latin continued to be employed in the universities as the language of learning, but a vocabulary and mode of address very different from those of Ciceronian eloquence were needed for such scholastic purposes. At no time has an ideal sought by the schools with such infinite toil been more purely artificial, more utterly extraneous to the vital interests of the age. The absolute futility of stylistic Humanism became more and more apparent as time passed.

(5) The supreme difficulty with the education of the 16th century lay in its narrowness and opposition to the free development of thought and life. Both Humanism and the Reformation began with the fairest promises of liberty and enlightenment. The one soon capitulated to the blighting influences of Ciceronianism; the other, to a new scholasticism

which arose out of the confessionalism imposed by Luther and Calvin. In their original principles, these leaders had asserted the right of the individual to follow his own religious views and to interpret the Scriptures for himself; but in the interest of regularity, the dread of heresy, and the alliance of church and state, both men, in the end, largely denied these very principles on which they had justified their break with Rome. They defended the persecution of all who differed from them in belief or in practice. They substituted their catechisms and a rigid confessionalism for the unrestricted use of the Scriptures and the free development of religious life. They gave no aid to the infant efforts of scientific thought, particularly when the conclusions of the scientists appeared to conflict with the teachings of the Scriptures. They narrowed the school curriculum to those subjects which favored their point of view.

An excellent summary of the relation of the reformers to culture is given us by the historian Beard: [13]

> Was, then, the Reformation, from the intellectual point of view, a failure? Did it break one yoke, only to impose another? We are obliged to confess that, especially in Germany, it soon parted company with free learning; that it turned its back upon culture, that it lost itself in a maze of arid theological controversy, that it held out no hand of welcome to awakening science. . . . The fact is, that while the services which the Reformers rendered to truth and liberty by their revolt against the unbroken supremacy of mediaeval Christianity cannot be overestimated, it was impossible for them to settle the questions which they raised. . . . It was their part to open the floodgates; and the stream, in spite of their well-meant efforts to check and confine it, has since rushed impetuously on.

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CHAPTER VI

THE CATHOLIC REFORMATION AND EDUCATION

1. The Roman Catholic Church and Reform

Issues at stake. The revolution which, in the 16th century, transformed the institutions of Protestant lands also affected those parts of Europe that remained Catholic. In the south, as in the north, it was necessary to effect an adjustment between medieval learning and the newer scholarship; to evolve a social order and political system to replace feudalism; to correct abuses in the church, to make moral and ecclesiastical discipline more effective, and to compose theological disputes; and to develop a system of schools suited to the new order. In Protestant countries, leadership in educational and ecclesiastical reform passed to the civil rulers—kings, princes, and the free cities; in Catholic lands, the hierarchy of the church was able to retain a commanding position.

Since the 13th century, clergymen had been trained principally at the universities; there was much complaint that this practice had destroyed the unity of the church. Pride of intellect, it was charged, had replaced Christian faith, and philosophy had been placed above the Scriptures. Life at the universities was looked upon as the chief cause of the moral degeneracy of the priesthood.

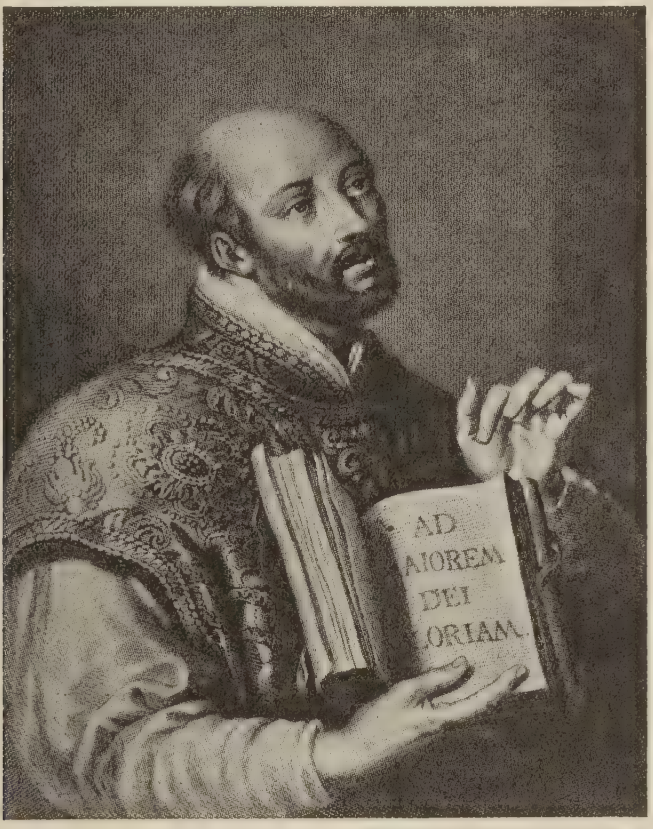
On the issue of the relation of scholarship to religion, Europeans in the 16th century were divided into four groups. One group—the members of which were few in number but, for the most part, powerful and well-educated—was made up of freethinkers, some of whom affected the manners and beliefs of ancient Athens and Rome. Members of the second group remained passionately attached to medievalism; they decried the study of the Greek and Hebrew languages, and of the literature of classical antiquity. A third group, composed almost wholly of uneducated enthusiasts, opposed scholarship of every sort. The fourth group—one which included most persons of education and influence—believed that education should be thoroughly Christian and that the classical studies could be made the means of moral and spiritual, as well as mental, improvement.

The course of reform. Even before Luther published his opposition to the sale of indulgences, Cardinal Ximenes had begun a movement to correct abuses within the Catholic Church. This movement was supported by Pope Urban VI and his successors. In 1545 a great council of the church was convened at Trent. The objects of this Council were to devise means of extending the Catholic faith to non-Christian lands, to root out heresy and to win Protestants back to the Catholic fold, to discipline the clergy and the Christian people, and to compose differences within the church. The Roman Curia dominated the Council, and dictated its decisions.

During the sessions, which continued until 1563, the Council defined the doctrines about which controversy was most acute. It was made plain that submission to the Bishop of Rome and acceptance of Roman Catholic views respecting the nature of the priesthood, the sacraments, and good works would be made conditions of the union of all Christians within the church. The Council enacted regulations of great importance affecting education. Teaching congregations were to be encouraged; parochial schools were to be reorganized and new schools established; and every diocese was to have its own theological seminary. Catholic historians are unanimous in declaring that the decree of the Council providing for the training of priests in theology, under the supervision of members of the hierarchy, has proved of the utmost importance in maintaining unity of belief. On the other hand, however, there is the possibility that such training of priests and other ministers of religion, in isolation from the main currents of the intellectual life of western Europe, has had results that were not so fortunate. The warfare between science and religion, and the steady decline of the influence of theology in the intellectual life of the western world, may well be due to this isolation.

2. Jesuit Education

Founding of the Society of Jesus. Between 1524 and 1684, there were founded a number of Catholic orders, most of which were devoted to teaching.[1] Prominent among these orders was the Society of Jesus. This organization, popularly called the *Jesuit Order,* was founded in 1534. Its founder, Ignatius of Loyola (1491–1556), was a Spanish soldier of noble lineage. Shortly after thirty years of age, Ignatius



Ignatius of Loyola.

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[1] Marique, P. J., *A History of Christian Education,* Vol. II, pp. 128–129. New York, Fordham University Press, 1926. This book contains a list of these orders, and an account of the nature and work of some of the more prominent of them.

was seriously wounded in battle; during the months while he was recovering, he decided to abandon the profession of arms and to devote the remainder of his life to religion. A devout Roman Catholic, Ignatius believed that he could serve God only as he worked through the Catholic Church. Upon his recovery, he spent considerable time in meditation, penance, and prayer, and then set himself to study the liberal arts and theology. He was at length ordained to the priesthood.

During the course of his training, Ignatius' plans slowly took shape. In 1534, together with six companions, he organized the Society of Jesus; in 1540, the society was approved by the Pope. Although the guiding principles of the new order were early established, the details of its organization were worked out gradually; they were tested in practice, and those which were approved were incorporated in the permanent *Constitutions* of the order, a document which was issued, in practically final form, in 1556. A section of the *Constitutions* was devoted to education, and contained the society's educational philosophy. The *Ratio Studiorum,* or plan of studies, based on the fourth part of the *Constitutions,* was worked out between 1586 and 1599. This plan embraced the educational principles adopted by the order, the full course and program of studies, the administration of schools, methods of teaching and of discipline, and the training of teachers.

Organization of the society. The members of the Society of Jesus have always been regular clerics; that is to say, priests who live under rules and who have taken the vow of absolute obedience, in addition to the vows of poverty and chastity. They devote themselves to preaching, to mission work, to pastoral duties, to literary work and scientific research, to ministering to the poor in hospitals and prisons, and especially to teaching. The last vow of the order contains this clause: "I vow according to obedience a special concern for the education of boys." The head of the order is the *general,* who is elected for life and whose only superior is the Pope. The Jesuits of the world are divided into provinces; over each province is a *provincial,* appointed by the general. There are many Jesuit colleges, each one of which is presided over by a *rector,* or president, who is appointed by the general but who reports to the provincial of the province within which his college is located. Professors and teachers are assigned to colleges by their superiors.

The fact that Ignatius was a soldier before he began to prepare himself to enter the priesthood, and the further fact that the head of the order is called a general—together with the strict discipline and close organization of the society—have led some writers to refer to its "military character." The organization is, however, in no sense a military order; its priests are not soldiers, but devote themselves to teaching, study, preaching, and the pastoral care of congregations. By the vow of absolute obedience, nevertheless, all members of the order are as completely subservient to the supreme authority of the general of the order as a private in the ranks is to the general of an army.

Growth of the organization. With great rapidity the order gained in numbers and influence, and it played an important part in shaping the decisions of the Council of Trent. The Jesuit colleges rivaled the schools and universities in Protestant countries, and for almost two hundred years their institutions dominated secondary and higher education in Catholic lands. As early as 1615, the order conducted 572 educational institutions; by 1705, the number had grown to 769. Many of these schools were very large; for example, in 1627 the fourteen Jesuit colleges of the province of Paris enrolled more than 13,000 students.[2]

During the 18th century the Jesuits were involved in bitter quarrels with the civil authorities, with the universities, and with members of the secular clergy and the other orders of the Catholic Church. The society was exceedingly active in assuming control of houses and lands which its members claimed were not properly administered by the clergy in possession of them. This practice was a fruitful source of conflict with various other Catholic orders and with the secular clergy. Moreover, the Jesuits, having acquired vast commercial and agricultural holdings, were regarded by wealthy men as business rivals. The methods of the Jesuit missionaries in India and China resulted in serious charges being preferred against the order at the papal court. Opponents, both Catholic and Protestant, charged their leaders with conducting political intrigues. So generally was the order detested that, in the 18th century, it was expelled from Spain, Portugal, and France, and in 1773 it was suppressed by the Pope. The society was reëstablished in 1814; and the *Ratio Studiorum* was revised for the first time in 1832, but only in minor details.

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[2] Hughes, Thomas A., *Loyola,* pp. 70–72. New York, Scribner, 1892.

Jesuit colleges. The educational activities of the Jesuits have been confined almost exclusively to the fields of secondary and higher education. Where primary schools were not conducted by other agencies, the order has very rarely supplied elementary instruction. The *Constitutions*, in stating that the order has not enough members to undertake the conduct of elementary schools, adds that such teaching is "a work of charity." It must not be forgotten, however, that elementary Catholic schools have been conducted by societies other than the Jesuits, as well as by parish priests.

The lower colleges of the Jesuits correspond roughly to German gymnasiums or English public schools; their higher colleges, to the arts course of European universities. The course of study of the lower colleges is divided into five, or sometimes six, classes. There are three grammar classes, followed by a fourth, called *humanities*, which is followed by a class called *rhetoric*. In the higher colleges, philosophy, including mathematics and natural science, is studied for three years. From the beginning, the policy of the society has been to open colleges only on condition that endowment funds sufficient to support the number of teachers required to conduct the institution were first provided. Instruction is gratuitous, but presents are freely accepted.

With the exception of teachers of certain professional subjects, all instructors are Jesuits. At the head of each college is a rector, or president, who is advised by a board of consultors and is assisted, in the administration of the college, by two prefects: the prefect of studies and the prefect of discipline. The rector and the prefects exercise close supervision over all matters of teaching practice, examinations, and discipline. Each college is visited once each year by the provincial, who interviews each teacher individually.

The aim of Jesuit training is to develop the Christian man and the scholar. The textbooks are prescribed absolutely:

works of pagan authors are expurgated and supplied with notes where these measures are deemed necessary to adapt the texts to the use of Christian youths; Latin texts by Christian authors are selected when suitable ones can be found. The Latin language is regarded as "the indispensable vehicle of all learning."[3] Moral training is correlated with training in languages, literature, and philosophy, and with worship and other religious exercises. The courses of study in Jesuit colleges have paralleled closely courses of study in classical secondary schools of Europe. Geography and history, at first taught in connection with the classics, later developed as separate courses in Catholic as in Protestant schools. The curricula of these higher institutions have been gradually modified during the past hundred years to meet the demands created by scientific discoveries.

The conduct of the students is carefully supervised; the boys engage in public and private devotions and attend confession at stated intervals. Never, save at the request of the subordinate, is a superior officer confessor to those under his charge.[4] In many respects Jesuit schools have an honorable record in discipline. Their method of discipline has been firm always, but it has been strikingly free from the brutality that disgraced so many schools in Europe and America during the 16th, 17th, and 18th centuries.

Methods of teaching. The characteristic feature of Jesuit pedagogical method for the lower levels of instruction has always been exercise under strict guidance; in higher schools, the characteristic feature has been exercise tested by established standards. Class exercises are of two sorts: *prelection* and *repetition.* In the lower classes, the prelection is virtually a lesson assignment; that is, the teacher takes his pupils over the work of the assignment next to be mastered. For example, the teacher reads the text in Latin; gives a brief summary of the passage; translates it word for word, explaining any obscurity of meaning; and then translates it a second time, striving, in his second translation, for literary excellence. He then takes up the syntax or grammar of the passage. Next he introduces supplementary information, drawn from history, literature, geography, theology, philology, and like fields, which will add to the pupils' understanding of the passage; and finally he draws moral lessons from the text. Teachers try to adapt the prelection to the abilities and interests of their pupils. Active participation of pupils in such an exercise is secured by questioning.

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[3] *Ibid.,* pp. 30–31.

[4] *Ibid.,* pp. 102 ff.

In the higher classes, the prelection is simply a lecture. After it is finished, there is a brief repetition of the work just covered. The first part of each day's recitation is given over to repetition of the work of the preceding day, and once each week the class reviews the more important points taken up during that week. A general review usually concludes the work of each term; such reviews are both oral and written.[5]

Motivation. As motives for learning, Jesuits appeal to respect and affection for parents and teachers, to the sense of duty, and to the natural love of excellence. The desire of youth to excel is especially relied upon. Ribadeneira writes:[6]

> Many means are devised, and exercises employed, to stimulate the minds of the young—assiduous disputation, various trials of genius, prizes offered for excellence in talent and industry. These prerogatives and testimonies of virtue vehemently arouse the minds of students, awake them even when sleeping, and, when they are aroused and running on with a good will, impel them to spur on faster. For, as penalty and disgrace bridle the will and check it from pursuing evil, so honor and praise quicken the sense wonderfully, to attain the dignity and glory of virtue.

Jesuits distinguish, and teach their pupils to distinguish, between desire for glory and its rewards and "self-love and the cravings of vain glory."[7] The society has worked out in elaborate detail devices for stimulating students by emulation. Pupil is paired against pupil; classes are separated into rival groups, called "Romans" and "Carthaginians"; schools are divided into contending "camps"; and "academies" are organized, membership in which distinguishes a pupil.

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[5] Marique, P. J., *op. cit.*, pp. 141–143.

[6] Quoted by Hughes, Thomas A., *op. cit.*, p. 90.

[7] Hughes, Thomas A., *op. cit.*, p. 90.

In the academies of the lower schools, members are required to debate; in higher schools, the academies hear and discuss carefully prepared papers.

Training of Jesuit teachers. The strength of Jesuit schools lies in the fact that in them trained teachers follow a carefully considered plan. The society has developed an elaborate technique of teaching and a well-articulated course of study; and their teachers, without any exceptions, have been taught both.

The candidate for admission to the society is usually accepted for his initial training just after completing his work in the lower college. He then spends two years as a *novice,* a period of testing and of moral and spiritual discipline. The man who completes this training acquires one of the most important traits of the teacher, the ability to command himself. After completing his novitiate, the young candidate for membership in the society reënters school; for a period of from one to three years, depending upon the quality and extent of his earlier training, he reviews the subjects he is later to teach. Throughout the early stage of his training, he observes able teachers at work. This period, known as the *juniorate,* is definitely a period of training for teaching, and is followed by three years of study of mathematics, science, and philosophy. In the last years of his higher training, the student specializes in some one branch of knowledge for which he had shown special aptitude, and studies its particular method of instruction.

When this period of training is completed, the novice enters upon the active work of teaching in a lower college. His work is constantly supervised by his superiors, and he receives such advice, correction, and encouragement as they think best for him. He is virtually a cadet teacher, working under guidance and profiting, not only by the advice of his superiors, but also from the example furnished by veteran teachers who are on the faculty of every school. After three or four years of teaching, the young man goes to the *house of studies* of his province, where for four years he studies theology. After the course in theology is successfully completed, he is examined for ordination.

A striking feature of the Jesuit system of training is the care with which records of the work, abilities, and interests of each member of the society are kept. Every officer has at his command information which he may use in correcting faults, in entrusting responsibility, and in choosing men.

Evaluation of Jesuit education. The value which one sets upon the work of the Jesuits depends upon the estimate he puts upon the type of moral and intellectual training for which they stand. Jesuit schools turn out men who read and speak correct and fluent Latin; men who are devoted to the Roman Catholic faith and practice; men who are disciplined and loyal to the ideals of the order; men who do competent work in mathematics and science. They maintain and perpetuate certain ancient ways of thinking and acting. Those who regard such achievements as proper objectives of an educational system must admire the Jesuit schools. It has been claimed, on the other hand, that these schools subject their pupils to a discipline which has the effect of limiting the development of individuality; that they have not kept pace with modern science; that a truly liberal training is not possible in schools which so carefully censor the reading and thinking of their pupils; and, finally, that the contributions of the society to science and to the liberal and fine arts are not so numerous or significant as might justly be expected from an organization so large and so old.

3. Education of Women

Education of women in Catholic countries. During the Reformation, convents were suppressed in Protestant countries, but in Catholic Europe they continued to exist, both as retreats for the religious and as schools for girls. The character of the convents had, however, changed in the later Middle Ages, and it continued to change during the centuries following the Reformation. After Abelard, a reaction against Rationalism occurred in the convents, and women who entered were interested in the performance of good works and in religious devotion to the neglect of scholarship. In the later Middle Ages, too, the universities, from which women were excluded, dominated European scholarship. The social changes attending the disintegration of feudalism contributed, likewise, to narrow the intellectual horizon of women in all parts of Europe. All of these factors had the effect of limiting their educational opportunities.

Certain forces, on the other hand, tended to increase the importance of convent schools. With the breaking up of the medieval system, the value of court and manor as educational institutions diminished, and convents were practically the only schools for girls of rank and social position. These schools were widely patronized by both Catholic and Protestant families. Moreover, when boarding schools for girls were, at length, established in Protestant Europe and in North America, they were fashioned upon the model furnished by the convent. To meet the new conditions, Catholics founded teaching congregations of religious women. The Order of Ursulines was founded in **1535**; other societies, established to maintain convent schools, soon followed.

It was the aim of convent schools to fit young women to perform their duties as mistresses of households and as members of fashionable society. The first of these duties was, of course, to maintain a Christian character. Refinement of taste and manners, in addition to skill in the management of the establishments under their care, was next in importance. Fénelon's treatise *On the Education of Girls*, and Saint Cyr, a school founded by Mme. de Maintenon, stimulated the development of a liberal system of education for French Catholic girls.

For Further Study

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CHAPTER VII

THE INTRODUCTION OF REALISM

1. The Forerunners of the Movement

Birth of educational realism. One age bears within itself the burgeoning fruit of the next; so the Renaissance of the 16th century unwittingly was preparing for the Realism of the 17th. Humanism, because of its very nature, could be only a transitory movement—an interlude, as it were—before the birth of another movement, less spectacular and vociferous but in the end vastly more significant and powerful. Classical Humanism was too largely emotional and aesthetic and, consequently, superficial and narrow in its interest.

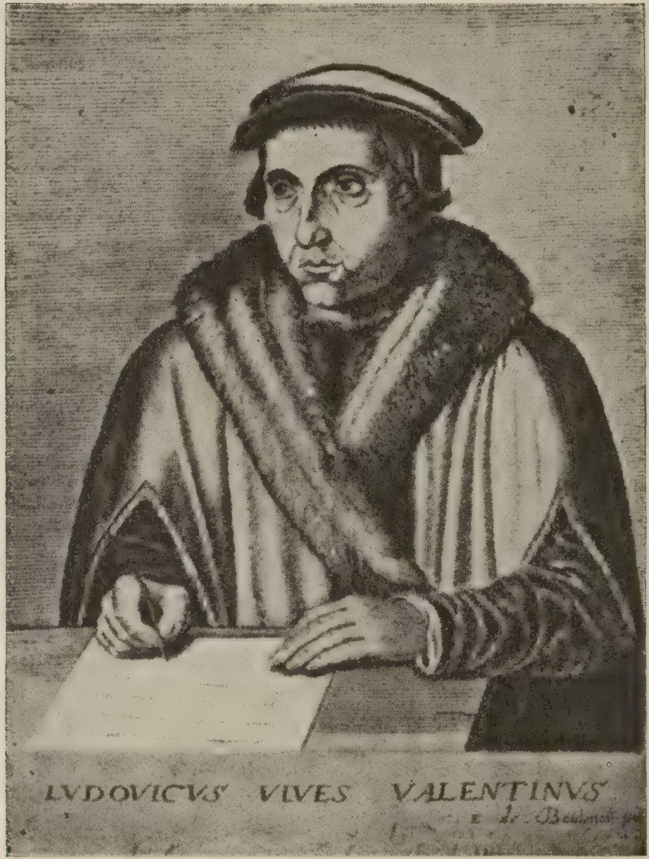
Back of language and literature, which are merely products of human genius, is man himself and the environment in which he is rooted. Likewise, in the new ecclesiasticism which came with the Protestant revolt, man was greater than any of his doctrines or creeds. While churchmen were exhausting their powers in fiery controversies over matters which admit of no absolute settlement, and schoolmen were immersed in deadening routine and formalism, great scientists in various lands were making epochal discoveries, and explorers were adding treasures of new information, which largely discredited the meager knowledge of ancient writers. The princes of the Humanists, such as Erasmus and Melanchthon, had chosen the slogan *Things and words* (*Res et verba*), but they intended something quite different from concrete objects as such. They had in mind, first, a knowledge of man's life and conduct, together with the ethical and religious wisdom distilled from centuries of human experience. To a lesser extent, they had also in view the knowledge of nature which the ancients possessed and which, in their ignorance, the Humanists believed to be final and authoritative.

Early forerunners of realistic education. Even at the very hour when the Humanists, sweeping aside the rubbish of

Scholasticism, were celebrating their ascendancy by assuming complete control of the schools, the forerunners of a still later era were announcing ideas far in advance of these superficial reforms. The chief of these far-seeing thinkers were Vives, Rabelais, Ramus, Montaigne, and the English schoolmaster Richard Mulcaster. These men were alike in that they used classical literature, not for its own sake, but rather for the scientific and historical information which it could contribute. They were not interested in style or in mere words, as were Sturm and his followers; nor yet were they interested primarily in religious and moral precepts, as were Erasmus and Melanchthon. Furthermore, they did not revere the ancients as infallible authorities and, therefore, as the only source of knowledge, but though they studied the ancients, they boldly asserted their right to use their own eyes, and to observe and study nature for themselves.

Juan Luis Vives. Not merely was Vives a prophet of Realism, he must also be regarded as the first great, modern student of educational theory. He was a Spaniard, born at Valencia in 1492. Of noble birth, he was well reared and carefully guided in his education by his gifted mother. As a young man of strict scholastic training and traditional views, he entered the University of Paris, where for the first time he came into contact with humanistic learning. He then went to Bruges, which was the seat of a large Spanish colony in the Netherlands; here he established his headquarters and married. For a time he studied and taught at Louvain, where he enjoyed the friendship of Erasmus, who, though much older than he, acknowledged his superior intellectual ability. From this time on he was recognized, along with Erasmus and Budaeus, as one of the leading humanistic scholars of Europe.

In 1522, when he visited London, Vives came into contact with Sir Thomas More and other English leaders. The queen, Catherine of Aragon, at once befriended him and brought about his appointment, at Oxford, to a readership in humanities. In 1523, after he had published several works on education, especially on the education of women, he was appointed supervisor of the education of Princess Mary. His attachment to the queen led him to oppose the divorce of Henry VIII; in consequence, he lost the royal support and returned to Bruges, where he taught, engaged in business, and wrote. Vives died while still comparatively young, in 1540. In the midst of the Protestant movement, he remained Catholic, but in many ways his sympathies were Protestant and his temperament was evangelical.



Juan Luis Vives.

Vives was the most extensive and progressive Catholic writer on education during the 16th century. In 1523, he wrote *On a Plan of Studies for Youth* (*De Ratione Studii Puerilis*) for the son of Lord Mountjoy, and a similar plan for the education of Princess Mary. These were followed by a larger work, *On the Instruction of a Christian Woman* (*De Institutione Feminae Christianae*), up to this time the most outstanding work on the education of women. As the relief of the poor had everywhere in Europe become a pressing problem, Vives wrote a treatise on the subject, in 1526, entitled *On Poor Relief* (*De Subventione Pauperum*). This was the first outstanding scientific work on civil charity, and one that exerted a powerful influence upon the treatment of poverty in western Europe. It will be remembered that the Netherlands, where he was living, had advanced far beyond other peoples in the affairs of civil government, and especially in the care of the indigent.

In 1531, Vives published twelve books entitled *Concerning the Teaching of the Arts* (*De Tradendis Disciplinis*). This complete work has justly been termed "the most thoroughgoing educational book of the Renascence." [1] In addition to this work, he wrote a number of textbooks, which were widely used in the schools. His last significant writing, *Concerning the Mind* (*De Anima*), was a work on psychology.

Vives applied himself to the study of psychology, with a view to making the principles of the mind's operations the basis of teaching practice. He attempted to place his study upon an empirical basis, and may be called a precursor of empirical psychology. Concerning himself with how the mind acts, not with the problem of its essence or substance, he rejected the subservience of philosophy to theology; he insisted upon reading Aristotle for himself, and positively declared: [2]

> It is our rightful claim to employ these our powers [of observation and thought], in the examination of all facts and all truths, comparing and ordering them one with the other, and surveying the whole universe as it were our own domain: even though we may wander ignorantly therein and fail to view it with right apprehension.

During this period no other man had such a clear conception of the function of sense perception, and of the natural growth of knowledge in the individual mind. In his pedagogical writings, Vives drew upon earlier theorists of the Renaissance, as well as upon their masters, Quintilian, Plutarch, and

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[1] Watson, Foster, *Luis Vives,* p. 100. Oxford, Oxford University Press, 1922.

[2] Woodward, W. H., *Studies in Education During the Age of the Renaissance,* p. 188. Cambridge, Cambridge University Press, 1906.

Aristotle. He criticized the current method of teaching the arts,[3] and drew up and discussed a comprehensive plan for a system of education, adapted, as he believed, to the needs of his day. He also made suggestions respecting school buildings and school organization.

The education of children is the concern of both parents: the father will oversee everything, and the mother may well be the child's first teacher. At seven years of age, boys are to be placed in public day schools; the pupils continue, however, to live with relatives or with friends, not in dormitories. If it is necessary to have a child taught by a tutor, one companion at least will be brought in. Sports, entertainments, student presentation of Latin plays, and physical exercise have a place in the education of every boy. Schoolmasters must be men of sound scholarship, and must also have had practice in teaching. The individual education of pupils should be planned by masters who study each student individually, and who adapt the course each one is to pursue to his particular bent and ability. Vives suggested that boys enter the school a month or two in advance, in order that their capacities may be thoroughly studied by the instructors. Four times a year the teachers will hold conferences at which they exchange their observations regarding the progress and ability of the pupils. They teach every pupil the thing he is most capable of learning. Slow wits are preferred to quick wits, and only those students who are really capable are given higher training. The stipend of the masters is a public charge, and no master receives money directly from his pupils for tuition, meals, or lodging. Great care must be exercised in choosing the site of school buildings, as well as in their planning, construction, and equipment.

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[3] The first part of the *De Tradendis Disciplinis* deals with the causes of the corruption of the arts. W. H. Woodward says: "In the seven books which comprise this portion of the entire work Vives treats of (1) the general causes of the decay of knowledge, instancing such varied reasons as avarice, arrogance of the unlearned, unwillingness to stoop to learning, wars, loss of learned tongues, confusion of the different regions of knowledge, ignorance of the real Aristotle, corruption of Universities; (2) the lack of true instruction in Latin and Greek; (3) the perversion of logic as an instrument of enquiry; (4) want of trained powers of expression; (5) ignorance of sound natural science; (6) decline of true study of moral philosophy; (7) degenerate methods of the study of law." See *Studies in Education During the Age of the Renaissance,* p. 183.

Concerning the use of the vernacular Vives wrote: [4]

> It is the duty of the parent and of the master to take pains that children speak the mother tongue correctly.

That this notable suggestion should have been made by a Spaniard from Valencia is not at all surprising. In the year of Vives' birth, Antonio de Lebrija wrote a Castilian grammar, *Grammatica Castillana,* for use in the education of young women of the Spanish Court.[5] Even in the 15th century, Spanish scholars recognized in their native speech a medium adequate to the demands of literature and scholarship. Furthermore, Vives believed that, in order to teach ancient languages effectively, schoolmasters must be able to use fluently and correctly the language of their pupils, and that it was not beneath the dignity of even a learned scholar to purify and enrich his national speech. In advocating the use of the vernacular during the earlier years of training and as an introduction to Latin, Vives was a century ahead of his day. Moreover, in insisting upon the use of the direct method in teaching languages, he was far in advance of his age.

Vives was by no means a foe to the teaching of ancient languages. He felt that Latin, as a universal language, served a very real purpose in promoting intercourse between scholars, the wide distribution of books, and the diffusion of the Catholic religion. He rejected the absurd adulation of Cicero, the dialectical grammars of the Middle Ages, and the view that the writers of antiquity had supplied all the information and wisdom needed in succeeding ages. He advised the study of such *utility* grammars as Melanchthon's, based on current usage; history, down to one's own times, and also geography, he felt, should find a place in the curriculum. In the study of literature, he considered form secondary to sense and good taste; the goal of this study was to be the development of character. Logic was to be studied for mental discipline. *Physics*, by which he meant mathematics and natural and physical sciences, was to be added to the curriculum when methods and materials suited to the school could be provided. His was the most urgent appeal made in this century for the study of nature; for this study, he claimed that nature is the best book: "Whatever is in the arts was in Nature first, just as pearls are in shells, and gems in the sand." [6] The studies of manhood years were the technical and professional subjects such as theology, law, medicine, architecture, political science, and war. The study of morals and of the Catholic faith was the crowning course of the school training.

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[4] *Ibid.*, p. 197.

[5] Watson, Foster, *op. cit.*, p. 5.

The program of women's education advocated by Vives included careful training in vernacular speech, Latin, religion, moral maxims and conduct, the care and education of children, and household management. In his program he neglected music, dancing, and drawing—arts which had usually held a prominent place in the education of women. Mathematics, science, politics, and much of history were likewise omitted from women's education.

Education should, Vives thought, develop personality, render a man competent in business, and, above all else, make him a true Christian. In furtherance of this ideal, Vives wrote: [7]

> This must be the first rule of any study of Nature in school: not to push research into causes and principles, which are beyond our reach, but to order all our enquiry with reference to the practical needs of life, to some definite advantage of mind or body, or to the end of personal piety.

In another connection, he wrote: [8]

> This is the fruit of all our studies, this is the goal. Having acquired our knowledge, *we must turn it to usefulness,* and employ it for the common good.

In education, according to Vives, everything must be subordinated to use, morality, and religion. The moral earnestness of this man is one of his most prominent traits.

Vives was the most democratic and humanitarian of the great Humanists. In his book *On Poor Relief* (*De Subven-*

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[6] *Ibid.,* p. 5.

[7] Woodward, W. H., *op. cit.,* p. 203.

[8] Watson, Foster, *op. cit.,* p. 60.

tione Pauperum), he advocated the education of defectives, rejected almsgiving as a means of aiding the poor, and suggested methods of home relief similar to those employed at the present time. In his attitude toward the masses, Vives is quite different from the typical Renaissance scholar. He wrote: "We [scholars] must transfer our solicitude to the people."[9] In another passage, which calls to mind the words of Socrates in the *Apology,* Vives further declared that, if the language of the disputants of the university were translated into the speech of the people, the workmen, "with hissing and clamour and the clanging of tools, would hoot the dialecticians out of Paris."[10] Vives had faith in the future of democracy. Sensing the Nordic revolt against Scholasticism and the Roman hierarchy, he predicted:[11]

> I see from the depths a change is coming. Amongst all the nations men are springing up, of clear, excellent and free intellects, impatient of servitude, determined to thrust off the yoke of this tyranny from their necks. They are calling their fellow-citizens to liberty.

In all of his works, it is evident that, while Vives was favorable to Humanism, yet his whole system moved in an entirely different realm, the realm of Realism.

François Rabelais. The chief significance of this wild buffoon lies in the fact that he stripped education of its superficial, external circumstances, and directed attention, at a stroke, to the very heart of the matter. Like diamonds in the refuse of the gutter, his educational ideas sparkle amid repulsive obscenity. Little indeed is known about him; even the exact date of his birth, guessed variously from 1483 to 1500, is unknown. His birthplace was Chinon, in Touraine. He became a monk, first, of one order and, later, of another, and then left the monastic life entirely. It is known that he studied medicine, a fact which sheds much light on the progressive character of his mind. He employed humor, satire, and buffoonery to express his criticisms of the evils of the day, and to suggest in a subtle way the reforms needed.

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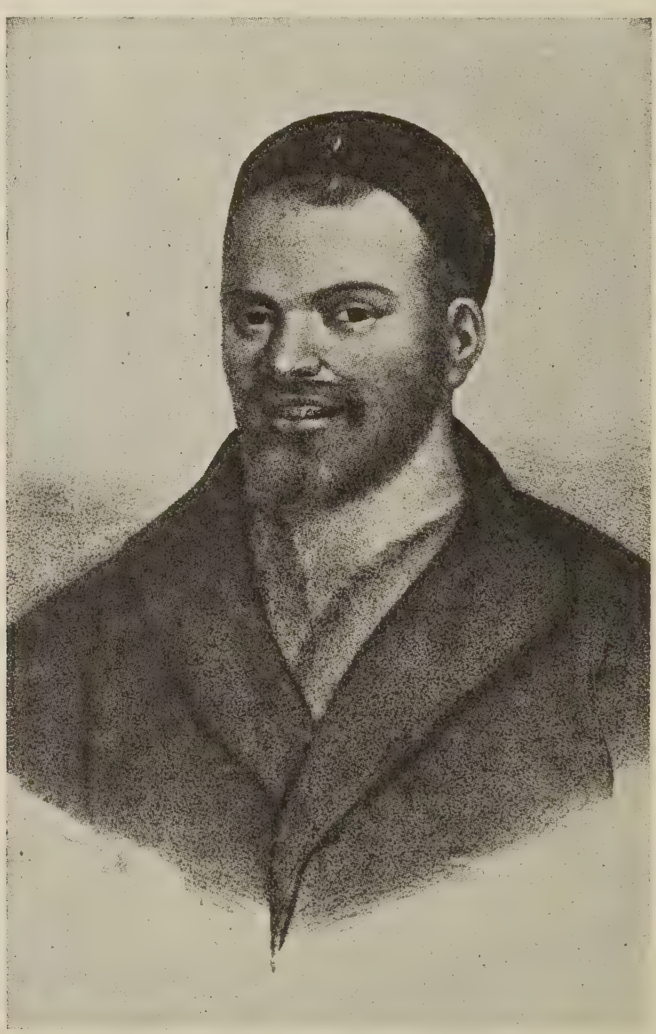
[9] *Ibid.*, p. 32.
[10] *Ibid.*, p. 32.
[11] *Ibid.*, p. 32.

He attacked the church and its abuses, but he did so without evoking the wrath of its authorities. Although Rabelais remains one of the enigmas of history, his ideas have exercised a powerful influence on the greatest of men, such as Montaigne, Locke, and Rousseau.



François Rabelais.

In 1533 there appeared the strange story of Gargantua, a mythical young giant, symbolic of a race of supermen. His early education, which followed the plan of the Middle Ages, has already been related.[12] When it was discovered, from a comparison with a young gentleman educated by the method of the Renaissance, how crude and ignorant he was despite his fifty years of application to medieval learning, Gargantua was subjected to a pedagogical purgative that "made him forget all he had learned under his ancient preceptors." There was then placed over him a new instructor whose method introduced a new era in educational thinking. First of all, as the story goes: [13]

> They brought him [Gargantua] into the company of learned men, which stirred in him an emulation and desire to whet his wit and improve his parts and to bend his study another way, so as that the world might have a value for him. And afterwards he put himself into such a road, that he lost not any one hour in the day, but employed all his time in learning and honest knowledge. Gargantua awaked about four o'clock in the morning. Whilst they were in rubbing of him, there was read unto him some chapter of the Holy Scriptures. . . . According to the purpose and argument of that lesson, he oftentimes gave himself to worship, adore, pray . . . to that good God, whose word did show his majesty and marvelous judgment. . . . They considered the face of the sky, if it were such as they had observed it the night before. . . . This done he was apparelled, combed, curled, trimmed, and perfumed, during which time they repeated to him the lessons of the day before. He himself said them by heart, and upon them would ground some practical cases concerning the estate of man, which he would prosecute sometimes two or three hours. . . . Then for three good hours he had a lecture read unto him.

There followed tennis or other games, as long as they pleased, "exercising their bodies as they had done their minds," and then "were they very well wiped and rubbed."

> In the meantime Master Appetite came, and then very orderly sat they down at table. . . . There was read some pleasant history of the warlike actions of former times. . . . Then, if they thought good, they continued

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[12] See pages 57–58 of this text.

[13] Rabelais, F., *Gargantua,* Book I, Chap. XXIII. London, Chatto and Windus, *n.d.*

> reading, or began to discourse merrily together; speaking first of the virtue, propriety, efficacy, and nature of all that was served in at the table; of bread, of wine, of water, of salt, of fleshes, fishes, fruits, herbs, roots, and of their dressing. . . .

Reference books were often brought to assist their discussions. After the meal a new form of lessons was introduced thus:

> They brought in cards, not to play, but to learn a thousand pretty tricks and new inventions, which were all grounded upon arithmetic. By this means he fell in love with that numerical science, and every day after dinner and supper he passed his time in it as pleasantly as he was wont to do at cards and dice. . . . And not only in that, but in the other mathematical sciences, as geometry, astronomy, and music. For, in waiting on the concoction, and attending the digestion of his food, they made a thousand pretty instruments and geometrical figures.

In music, he learned to sing and, also,

> . . . to play upon the lute, the virginals, the harp, the flute with nine holes, the viol, and the sackbut. This hour thus spent, and digestion finished . . . then betook himself to his principal study for three hours together, or more, as well to repeat his morning lectures.

Then followed expert horsemanship, in complete coat of mail and arms, and later, swordmanship, hunting, wrestling, jumping, and swimming.

> Coming out of the water, he ran furiously up against a hill, and with the same alacrity and swiftness ran down again. He climbed up trees like a cat, and leaped from the one to the other like a squirrel.

Numerous other sports were performed. Finally supper came. As at dinner, lessons were read and discussion engaged in. Before retiring,

> . . . they went unto the most open place of the house, to see the face of the sky. . . . Then with his master did he briefly recapitulate, after the manner of the Pythagoreans,

> that which he had read, seen, learned, done and understood in the whole course of that day. Then prayed they unto God the Creator, . . . which being done, they went to bed.

This exhausting program was varied in rainy weather, when they studied painting, wood carving, and other arts.[14] They visited all the establishments for manufacturing, such as the metal workers, goldsmiths, cutters of gems, alchemists, money-coiners, upholsterers, weavers, printers, organists, and so on,

> . . . and everywhere giving them somewhat to drink, did learn and consider the industry and invention of the trades. They went also to hear the public lectures, the solemn commencements, . . . the pleadings of the lawyers, and sermons of evangelical preachers. . . . They visited the shops of druggists, herbalists, and apothecaries, and diligently considered the fruits, roots, leaves, gums, seeds. . . .
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> Thus was Gargantua governed, and kept on in this course of education . . . which, although at the beginning seemed difficult, became a little after so sweet, so easy, and so delightful, that it seemed rather the recreation of a king than the study of a scholar.

In due time Gargantua had a son as gigantic as himself. He wrote to him, while the boy was a student at Paris, what subjects he should pursue: [15]

> I intend, and will have it so, that thou learn the languages perfectly; first of all, the Greek, as Quintilian will have it; secondly, the Latin; and then the Hebrew, for the Holy Scripturesake; and then the Chaldee and Arabic likewise. And that thou frame thy style in Greek, in imitation of Plato; and for the Latin, after Cicero. Let there be no history which thou shalt not have ready in thy memory; and to help thee therein the books of cosmography will be very conducible. Of the liberal arts of geometry, arithmetic, and music, I gave thee some taste when thou wert yet little, and not above five or six years old; proceed further in them, and learn the remainder if thou canst. As for astronomy, study all the rules thereof; let pass, nevertheless, the divining and judicial astrology,

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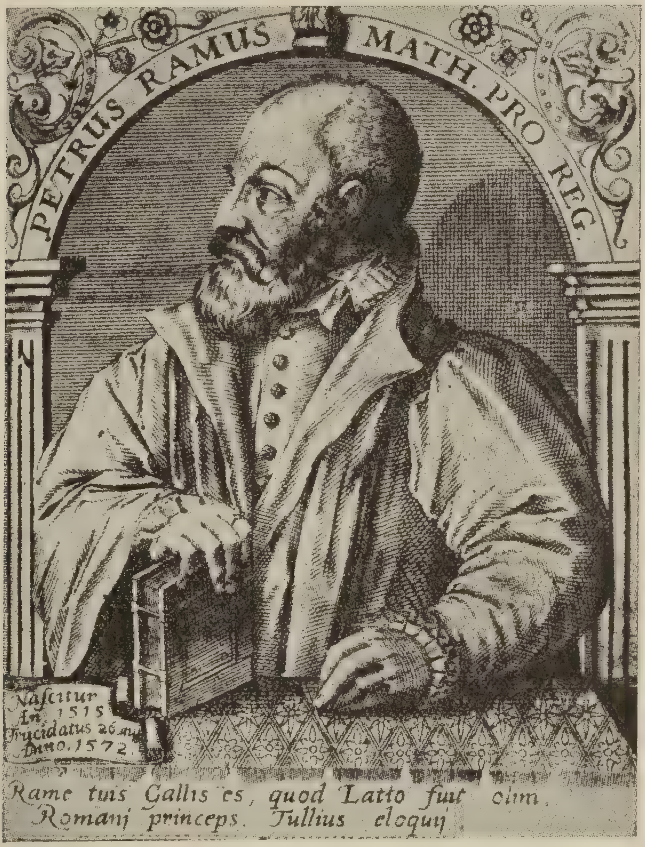
[14] *Ibid.*, Book I, Chap. XXIV.

[15] Rabelais, F., *Pantagruel,* Book II, Chap. VIII.

> and the art of Lullius, as being nothing else but plain cheats and vanities. As for the civil law, of that I would have thee to know the texts by heart, and then to confer them with philosophy.
>
> Now, in matter of the knowledge of the works of nature, I would have thee to study that exactly; so that there be no sea, river, or fountain, of which thou dost not know the fishes; all the fowls of the air; all the several kinds of shrubs and trees, whether in forest or orchards; all the sorts of herbs and flowers that grow upon the ground; all the various metals that are hid within the bowels of the earth; together with all the diversity of precious stones, that are to be seen in the orient and south parts of the world. Let nothing of all these be hidden from thee. Then fail not most carefully to peruse the books of the Greek, Arabian, and Latin physicians, not despising the Talmudists and Cabalists; and by frequent anatomies get thee the perfect knowledge of the microcosm, which is man. And at some of the hours of the day apply thy mind to the study of the Holy Scriptures; first in Greek, the New Testament, with the Epistles of the Apostles; and then the Old Testament in Hebrew. In brief, let me see thee an abyss and bottomless-pit of knowledge: for from henceforward, as thou growest great and becomest a man, thou must part from this tranquillity and rest of study, thou must learn chivalry, warfare, and the exercise of the field, the better thereby to defend my house and our friends, and to succour and protect them at all their needs, against the invasion and assaults of evil-doers.

In this jesting fashion, Rabelais points forward to an age of individual liberty, when men will rely upon a sense of honor to guide them in proper conduct. Even coeducation is suggested in the Abbey of Thélème, where boys between twelve and eighteen and girls from ten to fifteen live in free association and leave the institution when they mate—the true end and purpose of the institution.

Here, then, in Rabelais one finds the educational process for the first time completely stripped of all its externalities and non-essentials of space and time and people. He exhibits childhood and youth expressing their natural, exuberant activities spontaneously in play in the open air; pursuing their native interest in gathering knowledge; and at the same time, responding to the influence of those who have already tasted the delights of liberal learning. Spontaneity and interest are substituted for formalism and authority; the world of nature and everyday activities, for the cloister and the classroom; observation and direct contact, for textbooks; and reasoning, for rote memorization. Learning truly becomes, not the drudgery of imprisoned schoolboys, but the sport of kings.


PETRUS RAMUS MATH. PRO REG.
Naſcitur
In 1515
Trucidatus 26 au
Anno. 1572.
Rame tuis Gallis es, quod Latio fuit olim.
Romanij princeps. Tullius eloquij

Peter Ramus.

Peter Ramus. The most sustained effort undertaken by any humanistic Realist to effect a complete reform of the curriculum of higher education was that made by Peter Ramus (1515–1572). A son of a noble but impoverished family, Ramus supported himself, while a student at Paris, by working as a servant. His ability and industry early won for him the esteem of his teacher and of powerful churchmen and nobles. He attracted wide attention by defending, in his master's thesis, the proposition: "All that Aristotle has said is false." After securing his degree, he became almost at once a leader of educational reform. Ramus was a brilliant teacher, and his rise in the University of Paris was rapid; for, although he was bitterly attacked by the conservatives and by personal enemies, he was defended by powerful friends, especially Charles, Cardinal of Lorraine, a brother of the Duke of Guise. In 1561 he became a Protestant; this step lost him the protection of the Guises. He held his academic position, however, until his untimely end. He was murdered, in his study, on the third day of the massacre of St. Bartholomew.

Ramus was, as his enemies charged, a utilitarian. He believed that studies should increase the learner's power and effectiveness. He defined grammar, for example, as the art of speaking correctly; rhetoric, as the art of speaking effectively; logic, as the art of thinking well; and geometry, as the art of measuring well. Even theology had a practical value: its purpose was not mere acquaintance with matters relating to it, but "use and practice." He was, moreover, a Realist. The classical authors were to be read for method and content; Cicero, for example, was to serve as a model of correct thinking and not of mere style. Ramus was interested, also, in the study of living languages, and wrote a French grammar. He was, in addition, a champion of freedom of thinking and of teaching. When the rights of the University of Paris were invaded, he led the defense of the institution. He exposed the pretensions of men who had won high academic appointments by trickery. He defended, with great effectiveness, the right of freedom of teaching.

The most distinctive contribution that Ramus made to the progress of scholarship was his reform of the higher curriculum. He reorganized all of the liberal arts; and undertook a revision of the professional curricula, an undertaking interrupted by his death. As a Humanist, Ramus was interested in the study of literature. He believed that true logic finds its materials in literature, and that the study of literature is approached through logic. Ramus credited Agricola with originating these principles. Scholastic logic, he continued, must be abandoned, and a new logic based on a study of the working of the human mind, especially as revealed in the greatest books, should be developed. This logic would have none of the puerile verbal distinctions and speculative digressions that had marred medieval logic. The new logic would consist of two parts: analysis and genesis—that is to say, a critical part and a creative part. Moreover, no learning process is completed until a student has applied what he has learned.

Ramus worked out three principles of educational reform; these were: (1) *nature*, (2) *system*, and (3) *practice.*

(1) The principle of nature, he taught, should guide in making up the content of studies. By this he meant that the materials of a field of study should be drawn, by observation, from nature, or, in modern terminology, from experience. The content of grammar, for example, is to be determined by usage, not by the application of formal canons. Logic is, not a normative science, but an art; and its content is to be developed by observing the mental processes of those who really think. Students of physics are to avoid metaphysical problems; such pupils must build up their subject by using their senses in observing the physical world.

(2) By the principle of system, Ramus meant his scheme for arranging content. This scheme comprised three parts: the "law of truth," the "law of justice," and the "law of wisdom." The "law of truth" is simply that, if a thing is once true, it is true always. The "law of justice" demands that boundaries between fields of knowledge must be maintained, and nothing that is not germane to a discussion may be introduced into it. For example, the concepts of rhetoric should not be introduced in a lesson on grammar. The "law of wisdom" demands that general principles be stated first, and that particulars be then introduced to illustrate the principles. In a word, Ramus advocated a deductive approach to teaching. This approach he employed in his reorganization of geometry. Graves credits him with being "perhaps the first to put the problems of Euclid in the form of propositions and theorems." [16]

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[16] Graves, F. P., *Peter Ramus*, p. 165. New York, Macmillan, 1912.

(3) The principle of practice has to do with teaching methods. By this principle Ramus meant that pupils should use, in critical and creative work, what they have read or been told.

Ramus endeavored, also, to work out for the school day a scheme that would supplant the medieval program. He divided the work day into two periods, each six hours long, and the order of exercises of both periods was the same. The first hour of a period was devoted to the professor's lecture, and was not to be an exercise in dictation. This hour was followed by two hours of study on the part of pupils. The fourth hour was given to the repetition, or recitation, covering the ground of the lecture. The teacher was to assure himself that all matters were understood and that essentials were thoroughly memorized. The fifth and sixth hours of each period were devoted to discussion and disputation; such exercises were to afford pupils an opportunity to develop and apply what they had learned.

Much of Ramus' reform was superficial, and his reorganization of curricula was hardly less formal than that of the Schoolmen. He did, however, make a very substantial contribution to the progress of scholarship and of teaching methods. His books and course of study have the merits of brevity, unity, and clarity. His translations of ancient works on mathematics and his revision of arithmetic and geometry texts gave such impetus to mathematical studies that he may be regarded as one of the truly important figures in the development of the study of mathematics. Calvinists generally accepted the Ramian logic. It had an important place at Leyden, at the Scotch universities, at the universities of Germany, and at Cambridge. At the latter, Ramism was opposed by Digby, reputed to have been the tutor of Sir Francis Bacon; and it may well be that contact with Ramian logic at Cambridge contributed to Bacon's distaste for the deductive system. An attempt was made in Germany to effect a synthesis of the principles of Ramus with those of Melanchthon. The Philippo-Ramian philosophy, as this system was called, was not a success, but it did stimulate German reformers. Alsted, teacher and friend of Comenius, was trained in it, and there can be no doubt that the influence of the French reformer reached the great Sense-Realist.

Richard Mulcaster. Long headmaster of Merchant Taylors' School and later head of St. Paul's, Richard Mulcaster (*c.* 1530–1611) published two books on education: *Positions*, in 1581; and the first part of *The Elementarie*, the next year.[17] These books contain no idea not encountered in the writings of one or another of the earlier theorists. This statement does not, however, deny that Mulcaster is a significant figure; he was, as a matter of fact, the greatest exponent, during the 16th century, of the view that education should be widely diffused and adapted to the needs of all. He offered a detailed plan for elementary training; disapproved of education under tutors; treated specifically of education in the vernacular, proposing six years of elementary instruction in one's native speech; and pleaded earnestly the right of girls to be fully educated, appealing to ancient custom and citing examples of educated women.

Care, Mulcaster believed, should be exercised not to train such a multitude of scholars in the classics that the need for their services would be oversupplied. All citizens may, however, without hurt to the nation, be taught to read and write. Music, drawing, and games, together with reading and writing, make up the elementary curriculum which he advocated. He contended, further, that school buildings should be so situated as to afford pupils plenty of light and air, and that playgrounds should be provided for all schools. Games and physical exercise should have an exceedingly important place in education. In training schools associated with the universities, teachers should be specially prepared for their work. Children under twelve years of age would not be permitted to enter Latin schools. Teachers of very young children should be chosen with the utmost care, and should be well paid, since in their work the greatest teaching skill is required. The master must study his pupils and adapt his offerings to their abilities and needs: [18]

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[17] The full titles are: *Positions, wherein those Primitive Circumstances be Examined which are necessarie for the Training up of Children, either for skill in their Booke or Health in their Bodie;* and *The Elementarie, which entreateth Chiefly of the Right Writing of the English Tung.*

[18] Mulcaster, R., *The Elementarie,* p. 31. Oxford, Oxford University Press, 1925.

> The end of education, and train[ing] is to help natur[e] unto hir perfection, which is, when all hir abilities be perfected in their habit.

Of the universal, liberal education of women, he wrote: [19]

> Our countrey doth allow it, our duetie doth enforce it, their aptnesse calls for it, their excellencie commandes it: and dare private conceit, once seeme to withstand, where so great, and so rare circumstances do so earnestly commende?

Mulcaster was the first of the English schoolmasters to teach that the vernacular may be made the instrument of a liberal education. In *The Elementarie,* he declared: [20]

> I do not think that anie language . . . is better able to utter all arguments either with more pith, or greater plannese than our *English* tung is.

He would have Latin, Greek, and Hebrew taught to youths and young men whose abilities fit them for the pursuit of classical scholarship, and whose work is likely to call for mastery of these languages. His attitude toward his native speech is pithily expressed in a passage from *The Elementarie:* [21]

> I love *Rome,* but *London* better; I favor *Italie,* but England more; I honor the *Latin,* but worship *English.*

Sir Francis Bacon. Bacon reached maturity after Scholasticism had been completely discredited; he died more than a generation before the Copernican-Cartesian revolution was completed by the work of Newton. His philosophical writings offer, on the one hand, a criticism of the scholarship of the Middle Ages and the Renaissance, and, on the other, a statement of the nature and goal of learning, together with a method by which learning may be advanced. Bacon believed that it is necessary to appeal to authority in the realm of theology; but that in other fields this appeal leads to stagnation. The "contentious learning" of the dialecticians, the "delicate learning" of the Humanists, and the "fantastic learning" of the necromancers are, to Bacon, equally futile; for all have lost sight of the real goal, and none have grasped the right method. Philosophy has attempted to discover final causes, whereas its concern should have been with formal or efficient causes. Bacon designated as "idols" those basic errors in outlook which hinder the search for truth. The theological interpretation of natural phenomena he regarded as one of the most dangerous of the "idols of the tribe," his name for the fundamental errors to which human nature is especially liable. Schoolmen and Humanists, he contended, have made the mistake of neglecting nature, while they elaborate what man already knows, or fancies that he knows. The

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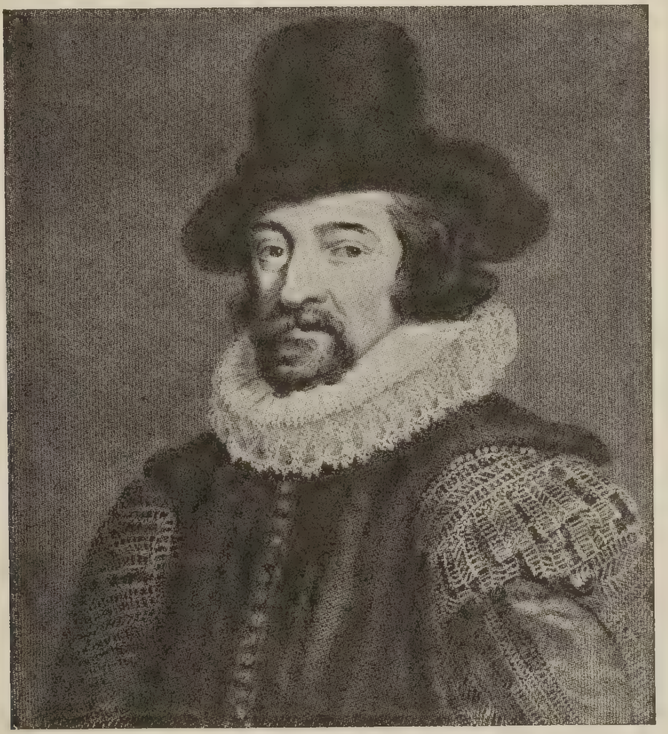
[19] Mulcaster R., *Positions,* p. 167. London, Longmans, Green and Company, 1887.

[20] Mulcaster, R., *The Elementarie,* p. 274. Oxford, Oxford University Press, 1925.

[21] *Ibid.,* p. 269.



Francis Bacon.

necromancers are, in one respect, actually better, since they have attempted, though by wrong methods, to deal with nature. As ants heap up their store, so men have gathered facts; they have elaborated theories as spiders spin their webs. The true scientist should labor as the bee, gathering where he can and working into a single structure all that he gathers.

Bacon advocated precisely what his contemporaries, William Gilbert and many others, were actually doing. Turn to nature, he advised; contrive experiments by which she will be compelled to furnish the data you require; observe, weigh, and relate your observations with the utmost care; elaborate your generalizations with due regard to the principles of inductive logic.

The function of "philosophy"—which, to Bacon, meant natural and physical science—is to relieve the sufferings of men, to raise and refine their standard of living, to enrich their minds, and to enable them to live happily together. With speculative questions relating to the nature and purposes of God and the ultimate destiny of man, Bacon believed, reason has nothing to do. Human learning has as its aim mastery of things, an accomplishment which will further man's control over nature. In the fragment *The New Atlantis*, Bacon elaborated a utopian scheme for scientific research.[22]

When one recalls that Bacon possessed no proper appreciation of the place of mathematics in science; that he not only did not understand the work of Copernicus and Gilbert but was so presumptuous as to pass judgment on their work even in the absence of exact knowledge as to what they were doing; that Ramus, as an innovator in logic, and Vives, as a prophet of science, had done constructive work long before Bacon; and, finally, that Spanish scholars had, more than a century before Bacon began his work, indicated the great value of the use of native speech, the impulse is to dismiss Bacon as trivial and inaccurate. However, Bacon made an exceedingly important contribution to the progress of science and of education. His is the contribution, not of the scientist, but of the publicist. His high position, the wide range of his scholarship, and the literary excellence of his writings won for his works a wider audience than that which knew the works of the mathematicians, the physicians, and the astronomers who were actually effecting a scientific revolution. Bacon could be read by any man of good general education, while the scientists could be understood only by men trained with some degree of specialization. Bacon's writings gave impulse to the formation of the Royal Society of London, and to a movement in theory of education, in connection with which Ratich and Comenius were great figures. He gave considerable impetus, also, to Empiricism, a tendency in philosophy of which John Locke was a significant exponent.

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[22] See page 247 of this text.

2. The Expansion of Scientific Knowledge

We are accustomed nowadays to pride ourselves on living in the supreme age of scientific discovery. The progress of scientific knowledge and the consequent control over the forces of nature are the common boast of our times. We fail to appreciate that some of the commonplace things of today were the great discoveries of yesterday, and that many of them aroused as great a thrill as any of the wonderful inventions of the present age. At the beginning of the 17th century, Campanella closed his utopia, *The City of the Sun*,[23] with this highly modern boast: [24]

> Our age has in it more history within a hundred years than all the world had in four thousand years before.

The arresting fact is that much may be said in favor of ranking the 17th century alongside the 20th in scientific achievements. In its effect in revolutionizing man's traditional conceptions of the universe, it was even more significant.

The theological furor and the political turmoil of the 17th century have so dominated the attention of historians generally that consideration has been distracted from more significant concerns. During the later 16th century and the early part of the 17th, substantial progress was made in laying the foundation for modern science. There are no monuments erected to the inventors of the symbols, "0" (zero), and "*x*, *y*, *z*," or any of the other mathematical signs; but, as a matter of cold fact, these men actually conferred greater benefits upon civilization than did most of the heroes who adorn the pages of history. Even the histories of education have too frequently treated with silent indifference this progress of science. Moreover, while great honor has always been bestowed upon Bacon, who was not a creative scientist, too little credit has been accorded the men who actually advanced scientific knowledge.

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[23] See page 244 of this text.

[24] Morley, Henry, *Ideal Commonwealths*, p. 263. London, G. Routledge and Sons, 1887.

Creative moments in mathematics. The great creative events of modern mathematical science may be summed up in five major developments.

(1) *Arabic notation.* Through all the early centuries, the conquest of numbers was well-nigh impossible because of cumbersome symbols. The modern mind seldom appreciates how tremendous was the change effected by the adoption of the Arabic notation, which made calculation of large numbers so vastly easier that the study could be transferred from the senior year of college to the primary grades. By the end of the 13th century, what is known as the *Arabic notation*, but what actually was the *Indian notation*, had been introduced into Europe; by the year 1500, the symbols employed were practically the same as those now in use. The popularizing of the new arithmetic, as is usually the case in such matters, took place outside the schools before the subject was introduced into the course of study. The chief means of spreading the new arithmetic was its use in trade, in keeping accounts, and in the making of almanacs and calendars. The calendar was particularly important in connection with religious feast days.

(2) *Decimal system.* The second step in facilitating the use of numbers was made possible by the invention of the symbol zero. The use of decimal fractions, beginning in 1585, was the invention of Simon Stevin, a Dutch mathematician and physicist.

(3) *Algebra.* This has been of the greatest service in promoting the advancement of science. One may call it a universal or abstract arithmetic. Cardan, an Italian mathematician, made the most important advance when, in 1545, he

printed his work, *The Great Art* (*Ars Magna*), a treatise on algebra. Between this date and the year 1600, the present symbols used in algebra were produced. Recorde added the sign of equality; Descartes introduced the common use of *a*, *b*, *c*, and *x*, *y*, *z*, as symbols to express abstract numbers. It was the lack of such symbols which hindered the ancients from making progress in this field.

(4) *Logarithms.* This invention formed another incalculable advance in human knowledge. The discovery was due to Sir John Napier, a Scotch mathematician, who originated the system of logarithms and published his work in 1614. This development made possible the elaborate and lengthy calculations required in astronomy and other sciences.

(5) *Geometry and trigonometry.* Important developments in these subjects followed at the end of the 16th century and the beginning of the 17th. Gradually the signs and symbols employed in these sciences were elaborated by the leading mathematicians, and then slowly they were accepted by all. The establishment of chairs of mathematics in the various universities of Europe at this time did much to increase a knowledge of the subject. Futhermore, mathematical thinking soon led to the invention of numerous instruments for exact measurement and for demonstrating scientific facts.

Printing. The part that printing played in the evolution of all mathematical, as well as other sciences, is stated by Ball:[25]

> The invention of printing rendered . . . the dissemination of discoveries comparatively easy. It is almost a truism to remark that until printing was introduced a writer appeared to a very limited class of readers, but we are perhaps apt to forget that when a mediaeval writer "published" a work, the results were known to only a few of his contemporaries. . . . There was no common center through which men of science could communicate with one another, and to this cause the slow and fitful development of mediaeval mathematics may be partly ascribed.

The first printed arithmetic appeared at Treviso, near Venice, in 1478; it was some years later that the first book in arithmetic and algebra combined was published. Soon, other arithmetics were issued in northern Europe; the first in the English language was written by Robert Recorde about 1540.

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[25] Ball, W. W. Rouse, *A Short Account of the History of Mathematics*, pp. 199–200. London, Macmillan and Company, Ltd., 1922.

> By the beginning of the seventeenth century we may say that the fundamental principles of arithmetic, algebra, theory of equations, and trigonometry had been laid down, and the outlines of the subjects as we know them had been traced. It must be, however, remembered that there were no good elementary text-books on these subjects. . . . Though much of the modern algebraical and trigonometrical notation had been introduced, it was not familiar to mathematicians, nor was it even universally accepted; and it was not until the end of the seventeenth century that the language of these subjects was definitely fixed.[26]

Astronomy. Aside from the direct attention to the starry heavens, which springs spontaneously from sheer wonder and curiosity, men became interested in astronomy for several quite practical reasons. First, and most necessary, was the desire for strict accuracy in calculating the calendar. Such accuracy was of extraordinary concern not only for agricultural and other seasonal operations, but more especially for directing the great religious celebrations of the Christian church. Throughout a long period during the Middle Ages, a controversy raged over the proper time for celebrating the Easter Mass. The Greek Catholic Church and the Celtic Church in Britain celebrated Easter at one time; the Roman Church, at another. This sharp disagreement resulted in raising astronomy to a place of foremost importance, not alone for scholars, but also for popular attention.

However, a different interest took precedence over scientific astronomy during the later medieval period. This was the pseudo-science of astrology, which was the product of superstitions. Absurd as the practice may now seem, one must remember that astrology was accepted and practiced in all good faith by many of the most intelligent mathematicians and physicians even down to the 18th century. Interest in the cure of disease and the forecasting of future events combined to place this study among the branches of medical science. Chairs of astrology were established at some of the chief universities. Casting the horoscope, to foretell future events in the fortune of an individual, required not only great astuteness, but equally great skill in making calculations. With the final triumph of the Copernican theory, the reign of astrology came to an end. Its long hold upon human credulity must not so blind one that its real service is not appreciated. For a long time astrology kept alive the interest in astronomy and, by the casting of horoscopes, contributed vitally to the application of mathematical principles to astronomical study.

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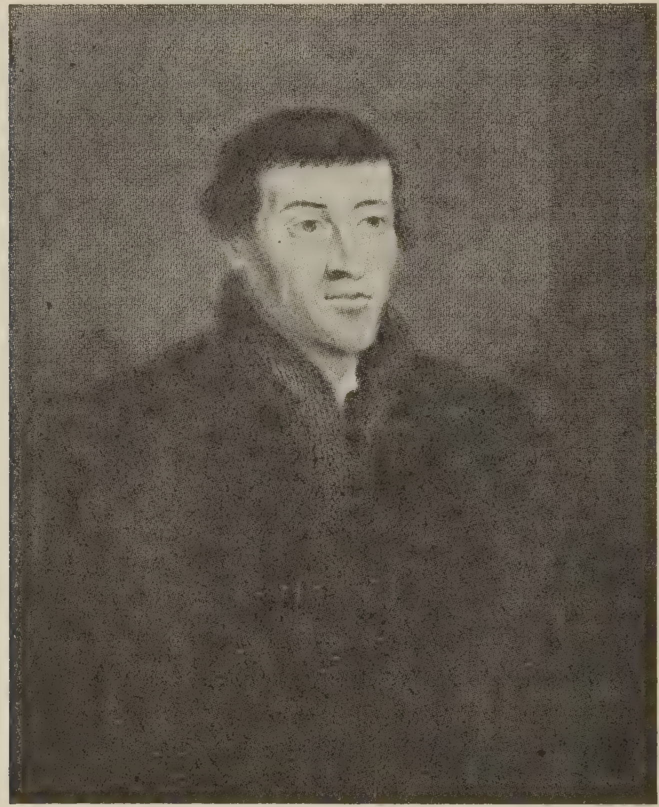
[26] *Ibid.*, pp. 258–259.

In 1543, Copernicus published the final statement of the heliocentric theory. At first, because of its paradoxical character, the theory was greeted with derision. Later, powerful opposition sought to crush it. Among the theologians, Luther, Calvin, and Melanchthon took issue with Copernicus on the ground that his theory was contradictory to the Scriptures. The Roman Curia, through the Congregation of the Index, condemned the new theory, forced a recantation from Galileo, and proscribed all books which taught the theory.

Many of the most learned scientists were as strongly opposed to the Copernican theory as were the theologians. Tycho Brahe, the astronomer; Cardan, the algebraist and astrologist; Jean Bodin, the French scientist; Montaigne, the celebrated French savant; and Bacon and Harvey, the leading thinkers of England—all discredited the strange idea. Nevertheless, the new view gradually became dominant. By 1596, Kepler could boast that all famous astronomers were Copernicans, and by the middle of the following century, the new theory had triumphed everywhere.

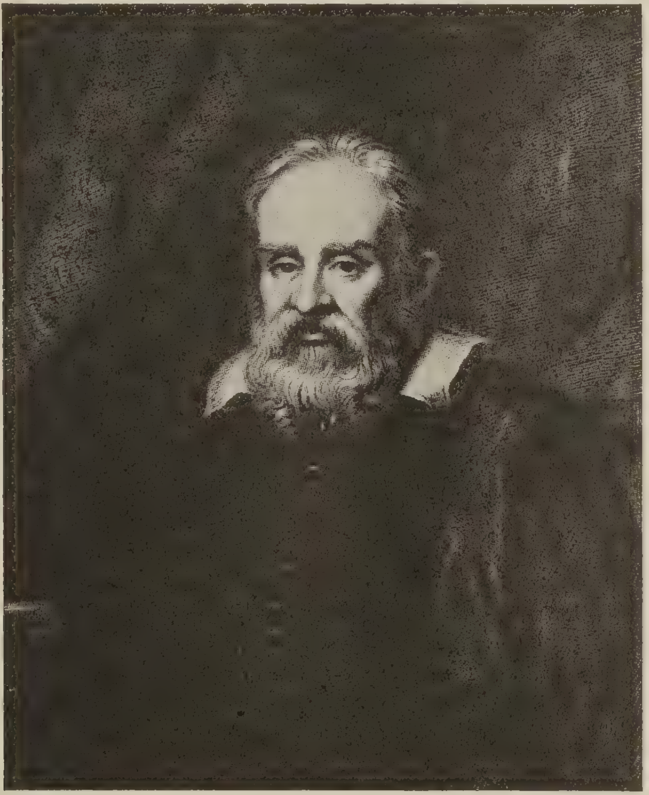
Although Copernicus, Tycho Brahe, Kepler, Galileo, and Newton are familiar names, precisely what each contributed to the expansion of man's knowledge of the universe may not be so well known. Less than a century and a half passed between the publication of Copernicus' *On the Revolutions of Heavenly Orbs* (*De Revolutionibus Orbium Celestium*), in 1543, and the appearance of Newton's *Mathematical Principles of Natural Philosophy* (*Principia Philosophiae Naturalis*

Mathematica), in 1687. The cumulative results of these gigantic minds formed the supreme triumph attained by human knowledge. Mathematics, as an *a priori* science applied



Copernicus.

to the objective universe, had revealed knowledge which, for daring, sweep, and positiveness, far transcended everything the ancients had discovered. Furthermore, all later thinkers must henceforth measure their results by this sublime achievement. Copernicus made an epochal advance by his bold hypothesis that the sun, and not the earth, is the center of the universe. Tycho Brahe, with indefatigable labor, collected observations of the heavens. Kepler, his assistant at Prague, made use of these observed facts and, by means of skillful mathematical calculation, actually discovered the courses of the planets. Here then was an astronomy, not of mere hypothesis, but of verified knowledge; observed facts and shrewd guesses had by means of mathematics been clearly substantiated. Galileo employed the telescope, and carried forward the revolution in physics and astronomy to the point where it challenged the attention of the whole world. Newton added the capstone, *The Celestial Mechanics*.



Galileo.

Physical sciences. Progress was far less rapid in the other physical sciences. Stevin was the first since Archimedes to advance the study of mechanics. Moreover, not only mechanics, but dynamics, statics, hydrostatics, and other forms of physical science were developed. William Gilbert published a work on magnetism, which made possible the later study of electrical phenomena. An appreciative estimate of this work states: [27]

> His work is one of the finest examples of inductive philosophy that has ever been presented to the world.

The great advance made during the 17th century lay in the change from mere philosophizing about nature to careful experimentation. Harvey, Torricelli, Boyle, and numerous others were engaged in genuine inductive research.

As further aids in the progress of scientific knowledge came the invention of the various instruments for exact measurement. The thermometer dates from 1597; during the first half of the 17th century came also the telescope, compound microscope, micrometer, thermoscope, barometer, air pump, pendulum clock, and numerous other inventions. Without these the sciences would never have been able to make progress. What signs and symbols did for the advancement of mathematics, the so-called "philosophic apparatus" did for the various physical sciences.

Geography. In the advancement of civilization during the 17th century, the importance of geographical knowledge must not be overlooked. Its development correlates with that of astronomy and history. A globe made by a German mariner in 1492 shows the world round, but the mariner had no knowledge of the existence of the American Continent or the Pacific Ocean. A century later, Mercator—or Gerhard Kremer, according to his real name—devoted himself to mathematical geography. He made maps, globes, and astronomical instruments. In 1595, his son published the first atlas, which greatly increased the popular interest in geography and led to the inclusion of modern geography in the course of study in the schools.

Medicine and the biological sciences. For over a thousand years no perceptible progress had been made in medical science. Down to the 16th century, Hippocrates and Galen continued to be the only authorities. Vesalius, in the early half of the 16th century, was the first to publish drawings of his dissections of the human body. Great interest was taken in this subject in Italy, where substantial progress resulted. Anatomy, medicine, geometry, art, and mathematics were closely interwoven. In 1616, Harvey, the English physician, discovered the circulation of the blood. Botany became a recognized part of medical science; much progress was made in the classification of plants and in a knowledge of their properties.

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[27] Sedgwick, W. T., and Tyler, H. W., *A Short History of Science*, p. 229. New York, Macmillan, 1917.

A most notable forward step was taken in the 17th century, when medicine, replacing magic, mysticism, and astrology, began to search for purely material causes of diseases. But no really significant progress was made until the more accurate knowledge of anatomy and physiology, brought about by the use of the microscope, opened the way.

Interrelation of mathematics, the physical sciences, and the arts. Mathematics and the sciences did not develop apart from one another. Each helped the other and, in turn, was stimulated in its own growth. Pure mathematics, applied mathematics, medicine, astrology, astronomy, geography, architecture, and even art—all advanced together.

It is true that in the early days the commercial centers confined their mathematical interests to the simple requirements of trade, bookkeeping accounts, calendar calculations, constructions of the architect and military engineer, and the calculations of the astrologer and the navigator. It was, of course, accidental that Copernicus' great work on astronomy and Vesalius' work on anatomy appeared in the same year, and Cardan's algebra only two years later. But accidental though this synchronization may have been, the deeper fact was that all these sciences were interdependent in their progress. The development of mathematics assisted in expanding man's knowledge of the world, and its language soon became, in the hands of Descartes, the precise language of scientific thought.

What really contributed most vitally to the growth of higher mathematics was its relation to astrology and medicine. The great mathematicians—such as Cardan, Recorde, Regiomontanus, and even Copernicus—were students of medicine. It was generally believed at the time that "a physician without astrology was no better than an eye which did not see." He must know how to cast the horoscope, and he must be familiar with the elements of astrology, in order, by observing the conjunction of the planets, to determine the critical days in the course of diseases.

Most of the greatest minds of that time believed in astrology. Bacon accepted it. Kepler, the astronomer, made his living for a while by telling fortunes and casting horoscopes; for, said he, "Nature has designed astrology as an adjunct and ally to astronomy." Cardan "at one time did nothing but rave on astrology." The same was true of Regiomontanus. Moreover, astrologers were regularly attached to the universities. This widespread belief in astrology began to decline only after the 17th century.

Mathematics had its relations to art also. Everyone can understand the necessary relation the subject bears to architecture, but it is somewhat more difficult to understand its contribution to sculpture and painting. Yet the supreme masters of art, Da Vinci, Raphael, Michelangelo, and Albrecht Dürer, were keenly interested in mathematics. Da Vinci, the most universal genius of all, during the long intervals between his paintings made vital contributions to architecture, hydrostatics, and geology, and invented a flying machine; he was, moreover, the first scientific engineer. Dürer, likewise, issued works on mathematics. These men saw the essential relation of mathematics to perspective; and, what was even more fundamental, they recognized that art is subject to universal laws of rhythm and proportion, which are fundamentally mathematical.

In summary, the period of deepest significance may be said to have begun in 1543 and to have ended in 1687, a little less than a century and a half later. The initial events took place in the fields of astronomy, mathematics, and medicine.[28]

> Suddenly, within two years, appeared three of the most momentous works of science that the world has ever seen, Copernicus, *On the Revolutions of the Heavenly Orbs* (1543), Vesalius, *On the Structure of the Human Body* (1543), and Cardan's *The Great Art* (a treatise on algebra, 1545).

The application of mathematics to astronomy, which revealed clearly the true nature of the physical universe, found its final expression in Newton's *Principia* (1687). It must not escape notice that, in the vast amount of new information poured upon the human mind during this era, the mathematical sciences took the foremost place. As a matter of fact, mathematics displaced, not only philosophy, but even theology, the erstwhile queen of the sciences. Scientific investigators were quick to discern that mathematics furnished a wonderful instrument for the uncovering of natural phenomena. The integration of mathematical thinking with sense observation, in the fields of astronomy and physics, was the most significant triumph of the human mind. Newton's *Celestial Mechanics* gave to mankind its most profound and

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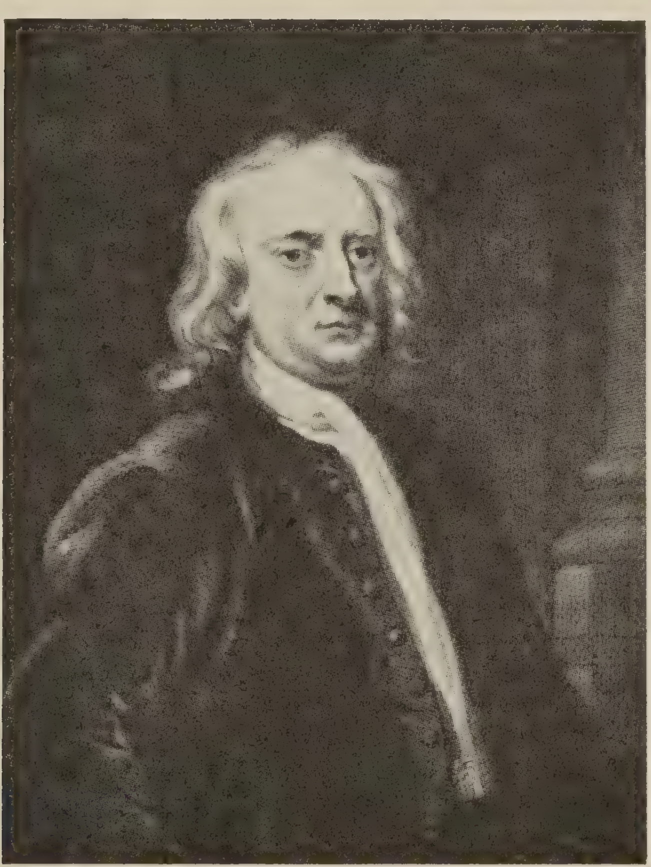
[28] Smith, Preserved, *A History of Modern Culture*, Vol. I, p. 18. New York, Henry Holt, 1930.



Isaac Newton.

incontestable revelation of the nature of the physical universe. This work set the standard by which the success of all scientific achievements was henceforth to be measured; moreover, it imparted to all the sciences a new impulse to realize an ideal of scientific accuracy and excellence which was to dominate the following century.

In this new scientific movement there was one aspect of peculiar significance. The new science taught with a certain authority and positiveness that neither the ancient writings nor scholastic philosophy possessed. Even Aristotle, formerly a veritable god of the natural world, was time and again shown to be in error, and was more and more discredited. A higher degree of certainty came into human experience—a feeling of certainty based not upon the personal experience of an individual, but upon the rational deductions of inevitable universal laws. Leonardo da Vinci (1452–1519), universal genius, painter, sculptor, engineer, architect, physicist, biologist, and philosopher, was the first to understand this new method of science. He declared [29]

> . . . that mathematics, arithmetic, and geometry give absolute certitude within their own realm; they are concerned with ideal mental concepts of universal validity. True science, he held, began with observation; if mathematical reasoning could then be applied, greater certitude might be reached, but, those sciences are vain and full of errors which are not born from experiment, the mother of all certainty, and which do not end with one clear experiment. Science gives certainty, and science gives power.

Establishment of scientific societies. The progress of science was greatly facilitated by the formation of learned academies and societies during this epoch. For a long time men interested in the promotion of knowledge were handicapped because they did not learn, until many years had passed, what others were doing in the same or related fields. Publication assisted much to overcome this difficulty, but was inadequate. The scientific academies founded to meet the need came into existence as follows:

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[29] Dampier-Whetham, W. C. D., *A History of Science and its Relations with Philosophy,* p. 115. Cambridge, Cambridge University Press, 1929.

1560, *Academia Secretarum Naturae*, founded in Naples, by Della Porta.
1603, *Academia dei Lincei* (of the Lynx), founded at Rome.
1660, Royal Society of London, chartered 1662.
1660, *Académie des Sciences* (Descartes and Pascal were members of the society; Newton was a foreign correspondent).
1700, Berlin Academy.

It is worthy of special note that the Royal Society of London became the most important agency for the promotion of scientific advancement in the English-speaking world. As a result of this society, practically all the great leaders of scientific progress in England have done their work outside the universities; in fact, until recently, the English universities have not extended their hospitality toward the promotion of research. The opposite attitude was true of the universities of Germany in relation to the Berlin Academy. Practically all the immense erudition of German scientists and scholars has come from their universities; for the professors of these institutions became, primarily, agents of research and, only in a secondary way, faculties for the transmission of instruction.[30]

3. Descartes and Rationalism

Like Bacon, Descartes does not figure directly in the history of education; yet one must agree with the judgment of another Frenchman: "There is no thinker who has exercised a more decided influence on the destinies of education." [31] The truth is that Descartes began the movement in philosophy and education which resulted in the Rationalism of the 18th century.

Descartes was born in 1596, of a distinguished family, in Touraine, France, and received his training in the Jesuit school at La Flèche. His course of training, while thorough, was narrowly linguistic, and consequently superficial and disappointing in its content. Dissatisfied with what he learned, for a time Descartes engaged in military service in the Netherlands. Here he came under the influence of the physicist and mathematician Beeckman, who awakened in him a love of science and mathematics.

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[30] See pages 728–733 of this text.

[31] Compayré, G., *The History of Pedagogy*, p. 188. Boston, D. C. Heath, 1901.

At the time his heart was filled with bitter disappointment because he had not been able to discover any certainty in knowledge; he then began to study mathematics. In his meditations he noticed that this was the only field of human thought in which there were no disputes. Here alone was to be found that indubitable certainty, that absolute clearness which his intellect demanded. He thereupon devoted his whole attention to the study of geometry and was able to make permanent contributions to the world's knowledge in this subject. He then became aware of the remarkable services of mathematics in placing beyond dispute the observations of astronomy and physics. The thought occurred to him that perhaps the same method which produced such infallible truth both in mathematics and the natural sciences could be applied with equally good results in other fields. Concerning this experience he wrote: [32]

> I was delighted especially with the mathematics on account of the certainty and evidence of their demonstrations; but I had not as yet found out their true use, and although I supposed that they were of service only in the mechanical arts, I was surprised that upon foundations so solid and stable no loftier structure had been raised.

With this illuminating idea of utilizing the geometrical method in other fields, he boldly entered upon the construction of a new philosophy. What interests the student of education is, not so much his philosophic results, as the criteria which he set up for scientific knowledge. Working with an inflexible determination to lay an indubitable foundation for human knowledge, Descartes adopted several rules to guide his thinking: [33]

> The first was, never to accept anything for true which I did not clearly know to be such . . . what was presented to my mind so clearly and distinctly as to exclude all ground of doubt.

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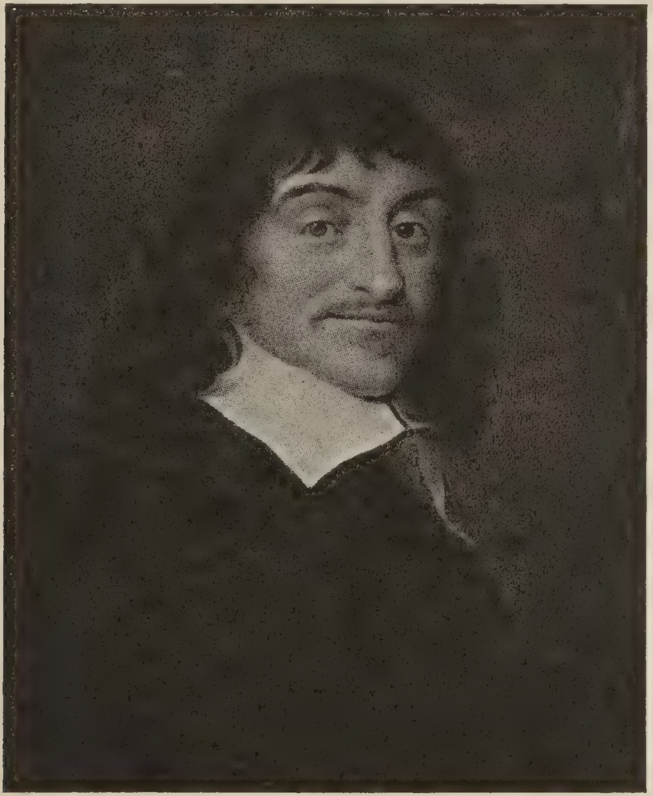
[32] Descartes, René, *Oeuvres de Descartes,* published by Victor Cousin, Vol. I, p. 128. Paris, Levrault, 1824. Also *A Discourse on Method,* in the Harvard Classics, Vol. 34, p. 9.

[33] *Ibid.,* p. 17.

The second rule was, by careful analysis, to divide every problem into its component parts. The third was to begin with the simple and proceed systematically to the more complex and difficult.



René Descartes.

But Descartes' chief contribution to education has not yet been stated, for it lies in the philosophical implication rather than in the application of his mathematical method. This implication was his assumption that the fundamental postulates of all knowledge lie inherent in the nature of the mind, as such. He assumed this to be true, not only of the axioms of mathematics, but equally of the fundamental principles of all fields of human thought. He believed that all primary ideas are innate, and that the growth of knowledge consists merely in drawing out the implications of these principles. The true method of science, therefore, is deductive in its procedure. The fundamental process of learning is rational, constructive thinking.

Nothing whatever is to be accepted as true and admitted into the temple of science unless it is so certain and clear to the rational judgment as the propositions of Euclidean geometry. If truth can be found only by the exercise of the rational judgment, then human reason must be accorded a dignity that it had not enjoyed since the ancient Greeks. Here, for the first time, human reason, so long humiliated in the interest of theological authoritarianism, found a champion.

The implications of this view, for education, were speedily drawn. Humanistic culture was frankly linguistic; it exercised memory, aesthetic sensibility, association, and imagination, but it did not teach children to reason. The Oratorians and the Port Royalists in France endeavored to revise education in accordance with the Cartesian philosophy. Furthermore, after this time all the great educational reformers demanded that knowledge must possess those qualities of certainty, clearness, and positiveness which characterize rational thinking.

Even more significant than this change of attitude, however, was the radical antagonism that existed between the Cartesian theory of innate ideas, and the principle of sense perception as the origin of knowledge. This deep-seated difficulty was to appear later as the dominant problem of both philosophy and education.

4. The Problem of Scientific Method

The question of scientific method. The Renaissance had begun to extricate the mind of man from the shackles of medieval modes of thought, when a formalized Humanism and a reactionary ecclesiasticism again placed youthful science in bondage to ancient authorities. The situation of the 17th century was somewhat different, however, and definitely temporary. First, the theologians of the Protestant churches came to entertain an intense hatred for Aristotle. Luther called him an "accursed heathen," and bitterly arraigned most of his writings. Later theologies took much the same attitude when they discovered the many points in which Aristotle contradicted the Scriptures. For example, Aristotle did not teach the immortality of the individual soul, the resurrection of the dead, the triune nature of God, the creation of the world by fiat, and many other of the most sacred and fundamental tenets of the Christian faith.

From a different angle, the phenomenal growth of scientific knowledge awakened suspicions of Aristotle's infallibility in regard to nature. Furthermore, thinkers began to question the authority of all the ancient writers. The sphericity of the earth, heliocentricity, the density of water, the pressure of the atmosphere, and many other newly discovered facts squarely contradicted what the ancients had stated. Ramus, the French scholar and educator, astounded the scholastic Brahmans of Europe by maintaining, as his graduating thesis, that everything Aristotle had taught was false. Later, Ramus wrote a new logic, which was based upon concrete data and was widely used in the universities.

In the field of science, the downfall of authoritarianism raised the question as to what method would give assurance of certainty and truth. The two outstanding leaders in the search for a new scientific method were Francis Bacon, the celebrated Lord Chancellor of England, and René Descartes, the French thinker and the father of modern philosophy. Their views of the right method for the advancement of science were radically divergent; they originated two lines of philosophical thought which, in the succeeding centuries, produced startling results.

Francis Bacon and the scientific method. Although not primarily a scientist nor even an investigator, Francis Bacon, more clearly than any other man of his day, foresaw the far-reaching implications of the discoveries that were taking place. He made himself the chief publicity agent and literary advocate of the new scientific developments. So convincingly did he set forth the new method and predict its promise for the future, that he has ever since been given more credit and honor than those men who, at the time, were patiently wrestir from nature its interesting secrets. In regard to education and the method of instruction, Bacon had nothing better to suggest than the practices of the Jesuits. But his efforts in behalf of the advancement of learning, the inductive method and practical science, were so fundamental that he must be accorded a substantial place in the history of education. His work for the advancement of learning will be discussed in a later chapter; we are here interested only in his contribution to method.

Bacon was not unique in discerning that Scholasticism and Classicism, which replaced it, were equally futile, so far as the advancement of learning was concerned. The fact was widely understood, but there were few who could see what the new pathway must be. Moreover, it was Bacon who began the movement for a critical scrutiny of the human mind, in order to measure its capacity for attaining truth and accuracy. Introspection was not at this time a common instrument of psychological use, and Bacon had little skill in employing it. He did, however, perceive some of the great obstacles looming in the way of the human mind's advancement of knowledge. He presented these as "idols" (*idola*), which deter or limit the mind in its efforts to attain truth. These "idols" he classified as: the "idols of the tribe," the "idols of the den," the "idols of the theater," and the "idols of the market place." The "idols of the tribe" are the limitations which are placed upon human capacities simply because people are human beings; finite minds suffer many handicaps. The "idols of the den" are the special limitations of individuals. The "idols of the market place," or the place of exchange, are caused by the difficulties encountered in reaching precision and exact knowledge of truth, and are due primarily to the limitations of language. The "idols of the theater," or show place, are the particular limitations arising from dogmas of philosophy or of religion which the human mind accepts.

The inductive method had always been employed in human thinking, for it is a procedure fixed by the inherent constitution of the mind. But no analysis of the inductive process had as yet been attempted such as the treatment of deduction in the logic of Aristotle. For this reason, deductive logic was regarded as the only instrument which gave men infallible truth. The great weakness of the deductive method was that it did not lead to the advancement of learning in the very field which was now, more and more, occupying the thought of men—the field of nature. This failure of the traditional logic—that is, of the *organon,* or "instrument," of Aristotle—to advance knowledge led Bacon to write the *New Organon* (*Novum Organum*), in 1620, to remedy the defect. This "new method" was merely the inductive process which had been used to such good effect by the scientists. It is based upon the principle that observation of the phenomena of the external world by the senses is the source of indubitable knowledge: [34]

> No one could have such confidence in the testimony of another person as to disbelieve the experience of his own senses. *Science,* then, *increases* in certainty in proportion as it depends on sensuous perception.

Experimentation, as a process, is not different from observation, but involves merely the expert control of conditions, so as to facilitate or simplify observation.

Bacon was interested, not in the discovery of nature for the sake of knowledge or as an end in itself or for mere curiosity, but rather to secure power to utilize the forces of nature for the welfare of mankind. He does not belong with the pure scientists, who are interested in understanding the nature of the world and man and who seek merely to accumulate knowledge for its own sake. Bacon belongs with the practical scientists, who utilize the secrets of nature to make inventions for the benefit of man. He declared in his *Aphorisms:* [35]

> I
>
> Man, being the servant and interpreter of Nature, can do and understand so much and so much only as he has observed in fact or in thought of the course of Nature: beyond this he neither knows anything nor can do anything.
>
> II
>
> Neither the naked hand nor the understanding left to itself can effect much. It is by instruments and helps that the work is done, which are as much wanted for the understanding as for the hand. And as the instruments of the

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[34] Keatinge, M. W., *The Great Didactic of John Amos Comenius,* p. 337. London, Adam and Charles Black, 1896.

[35] McClure, M. T., *Bacon Selections,* pp. 279–280. New York, Scribner, 1928.

> hand either give motion or guide it, so the instruments of the mind supply either suggestions for the understanding or cautions.
>
> III
>
> Human knowledge and human power meet in one; for where the cause is not known the effect cannot be produced. Nature to be commanded must be obeyed.

Yet, strangely enough, Bacon was ignorant of all that was being accomplished, by the mathematicians of his day, to discover the secrets of nature. He even raised special objection to studying astronomy by mathematical methods. In such conclusions he showed himself not altogether competent to judge the true method of science, even in its practical aspects, which have done so much to advance human welfare.

For Further Study

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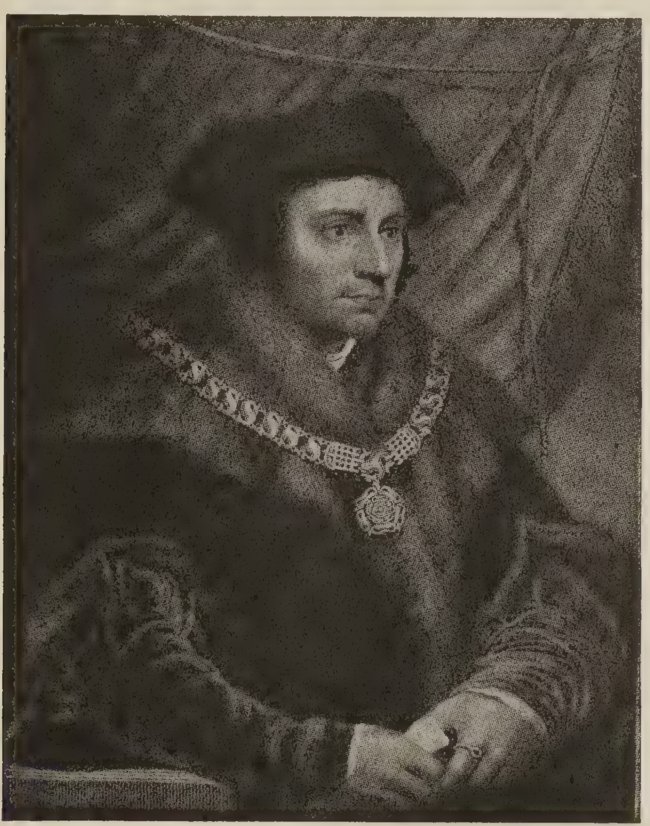
CHAPTER VIII

REALISM IN EDUCATION

Dramatis personae and their roles. With high tragedy dominant on the stage of European political life during the 17th century, it was inevitable that the clash between the irreconcilable social and religious ideals would likewise appear in the progress of culture; for, behind the plans of school organization, curricula, and methods, there always exist antagonistic social and religious aims, which lie deeply rooted in the social and political philosophies that the various individuals and groups embrace. Just as truly as each of these groups resorted to bloodshed to overcome its enemies, because it believed opposing religious doctrines to be not only false in principle but even destructive to the social order; just so staunchly was each opposed to the cultural ideas that accompanied such doctrines. Highly tragic were the efforts of the Port Royalists in France, Comenius in Germany, and the Puritans in England. At times, likewise, episodes of a comic character furnished the contrast needed, as it were, to satisfy the artistic sensibilities. The chief characters engaged in reforming education in Germany were Ratich and his many followers—among them, Reyher, Helwig, Evenius, and Duke Ernst of Gotha—and also Alsted, Andreä, and Comenius; in France, the Oratorians and the Port Royalists; and in England, Hartlib, Milton, Hoole, Petty, and Brinsley. Moreover, the Calvinists were industriously at work in Holland, France, England, Scotland, and America. To understand the realistic movement, it is necessary to become acquainted with the chief of these characters and the role which each played in the reforming of education.

1. Utopian Plans for Society and Education

Civilization in the Middle Ages was relatively static, or non-progressive. The best minds of the time complacently assumed that all knowledge had been already discovered, and that human nature and society were unchangeable. In the epoch of invention and discovery which followed, enlightenment fired the imagination to attempt great achievements. In the 16th century, and even more so in the first half of the 17th century, utopian schemes were numerous; all of them showed an interesting faith in the possibility of reconstructing human society, particularly through the power of education.[1]



THOMAS MORE.

> A new epoch of culture seemed about to open and an exotic impulse seized the imagination. Unbelievable things were about to happen; nothing was to be impossible any more.

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[1] Windelband, W., *Lehrbuch der Geschichte der Philosophie*, p. 325. Tübingen, J. C. B. Mohr (Paul Siebeck), 1928.

> The telescope unlocked the mysteries of the heavens, and the forces of the earth began to obey the investigator. Science would be the leader of the human spirit in its triumphant course through nature. Through her discoveries human life would be transformed.

Thomas More. The earliest of these utopian schemes was that of Sir Thomas More, written in 1515–1516, a century before the others. Political reform and communism comprised the nucleus of his scheme. Agriculture was to be the chief occupation in his Utopia. The entire work reflected a desire for the improvement of contemporary conditions of English society and government. Little attention was devoted to education. The book did set forth, nevertheless, a new faith in the improvement of human life. Most of the utopias written in the 17th century, however, looked on education as the essential means of bettering the individual and society.

Campanella. Early in the century, Campanella (1568–1639), an Italian scholar and scientist, wrote *The City of the Sun* (*Civitas Solis*), in which he described an ideal commonwealth. He tracked Plato in many ways, especially in devoting great attention to education. "They have but one book," he said of the citizens of this ideal community, "and in it all the sciences are written." This book is read to all the people, and furnishes them a knowledge which is encyclopedic in range though fixed in content. An even more ingenious means of instruction is Campanella's use of pictures. Taking his cue from ancient practices, he has the walls of the city, inside and outside, and the great buildings, also, painted with the finest pictures, maps, charts, and diagrams—to represent all the arts, sciences, mathematical figures, minerals, metals, forms of biological specimens, mechanical crafts, and even the laws and customs of mankind. Drawing and painting are highly cultivated, but, for some strange reason, music is confined to women. The shops of artisans are visited in order to discover the individual interests of the children. The home is completely abandoned in favor of Plato's system of breeding and state training.

Johann Valentin Andreä. The next great educational utopia is the *Christian City* (*Christianopolis*), written in 1619 by Johann Valentin Andreä, a German savant and pastor.

As the name of the work implies, Andreä conceived the ideal city as ruled by the principles of Christ. None of the other utopian schemes discussed education so extensively as his, and none was so completely motivated by the Christian spirit.

This gifted Christian author and educator (1586–1654) was a native of Würtemberg, where he spent practically all his life in ecclesiastical office. As an ardent student at the University of Tübingen, he mastered many languages; then he traveled widely in France, Switzerland, and Italy. He was deeply interested in mathematics and the new scientific developments of the day. A visit to Geneva profoundly affected him; although decidedly opposed to Calvinistic theology, he had unbounded admiration for the ecclesiastical discipline carried out in the city. As a Lutheran Church superintendent for many years in Würtemberg, he did much to reëstablish the schools under his charge, for they had suffered a setback because of the Thirty Years' War. His chief service to the cause of education lay in his influence on Comenius, who regarded him most highly and borrowed many of his ideas. A number of his writings bear upon education—especially the *Christianopolis*. He must be ranked with Comenius and Alsted as one of those who recognized the need of social and scientific progress, and endeavored to integrate the new scientific knowledge with the liberal Christian spirit.

Andreä's Christian City has no aristocracy of wealth or of birth. Honor and position only are the reward of virtue and service. No one possesses property, for the government is a Christian communism. As all citizens are on an equality, each must receive an education; this requirement holds for both sexes, and the youth are looked upon as "the most valuable asset of the republic." The greatest emphasis is placed upon sense impressions, a practice which even Comenius and Pestalozzi did not employ more forcibly. Just as in Campanella's City of the Sun, paintings, pictures, and diagrams adorn the walls. *Things,* also, are used for direct instruction.

Education is compulsory and is carried on in public schools, which are "a common charge for all the citizens." The aim of education may be inferred from the following: [2]

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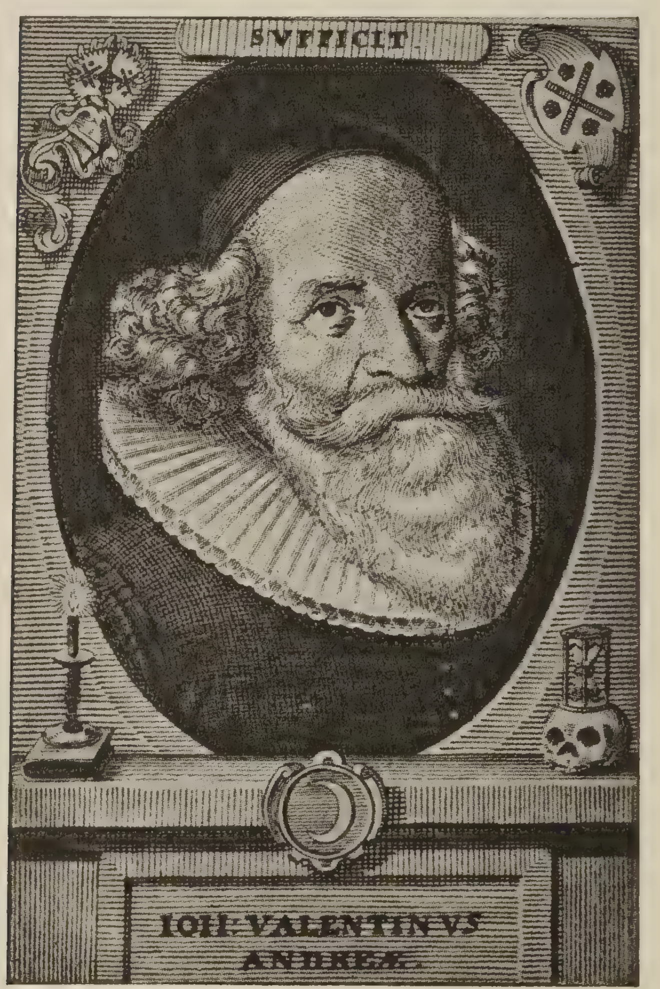
[2] Held, Felix Emil, *Johann Valentin Andreä's Christianopolis,* p. 209. Urbana, University of Illinois, 1914.

> Their first and highest exertion is to worship God with a pure and faithful soul; the second, to strive toward the best and most chaste morals; the third, to cultivate the mental powers.



Johann Valentin Andreä.

Comenius stated the aim more directly but in reverse order: knowledge, virtue, and piety. The curriculum proposed by Andreä was encyclopedic, embracing all learning; most emphasis, however, was given to mathematics and history.

Bacon's *New Atlantis*. The best known of all the utopias of this period was *The New Atlantis,* written by Francis Bacon in 1629. He pictured an island on which exists an ideal commonwealth, in which men live happily on a high level of civilization. The inhabitants have set themselves to investigate systematically the secrets of nature, and for this purpose have organized a scientific society, called "Solomon's House." In this suggestion Bacon foreshadowed the establishing of laboratories for the promotion of scientific research and invention. Unfortunately for posterity, this work was never completed; hence no provision was made in this utopia for the transferring of knowledge from the older to the younger generation.

Other utopias. About twenty years after *The New Atlantis,* an Englishman with the Germanic name of Samuel Gott wrote *Nova Solyma,* the story of an ideal government. He based his conception upon the proper education of the young: [3]

> The founders of the republic "thought it would not be an easy, natural thing for the citizens to act for the common weal unless from their youth up they were accustomed to restrain their natural evil desires, and to learn that habit of mind by which they would willingly, in their own interests, keep inviolate the laws of God and their country and put the advantage of the republic before any private or personal benefits whatever."

One of the most brilliant of all the utopias of the 17th century was *The Commonwealth of Oceana,* by James Harrington, published in 1656. This work treated of government and social and economic affairs, but, like other authors of utopian dreams, Harrington was interested also in education. Although a born aristocrat, he advocated free schools and compulsory training for all boys.

2. Wolfgang Ratich and the Realistic Method

Life and work. The first and most influential of the *didactic* reformers was Wolfgang Ratke (1571–1635), now generally called Ratich, a name he never heard. He was born in the town of Wilster, in Holstein, a German state lying next to Denmark. He received his education at a gymnasium in Hamburg, and then took up the study of theology at the University of Rostock, long a center of progressive learning, in northern Germany. He was an ardent Lutheran, profoundly religious, but a defect in speech turned him from the pulpit and pastorate. The idea of reforming education came to him suddenly, and he went to Holland, the most progressive center of the day for liberal and scientific learning. Here he took up the study of Hebrew and cognate languages and mathematics, and taught school for eight years. He then went to England, where he came into contact with Baconian ideas.

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[3] Masso, Gildo, *The Place of Education in Utopias,* p. 21. New York, Teachers College, Columbia University, 1927.

Returning to Germany, Ratich began to travel from place to place seeking a favorable opportunity to demonstrate his new educational method, which he was determined to keep a profound secret that he would disclose only to those who paid him well. In 1612, upon the insistence of friends, he went to Frankfurt at the time of the election and coronation of Mathias as emperor. Here he laid before the assembled body of electors a memorial in which he proposed:[4]

> With the help of God to give directions for the service and welfare of all Christendom:
>
> 1. How the Hebrew, Greek, Latin, and other tongues may be learned both by young and old, more easily and in very much shorter time.
>
> 2. How, not only in High German, but, also, in all other tongues a school may be established, in which all arts and sciences may be thoroughly learned and propagated.
>
> 3. How, in the whole Empire one and the same speech, one and the same government, and finally one and the same religion, may be pleasantly introduced and peacefully maintained.

He followed the memorial, within a few hours, with a further explanation in which he offered:

> 1. A much better method of teaching foreign languages than had hitherto been used.

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[4] Schmid, K. A., *Geschichte der Erziehung*, Vol. III, Part II, pp. 6–7. Stuttgart, J. G. Cotta, 1892.

> 2. To produce German text-books in all the sciences, to organize schools, preparatory for the *Gelehrtenschulen* [learned schools] in which the foreign languages would be taught.
>
> 3. In the schools for the learned (*Gelehrtenschulen*) everyone would learn first German, then Hebrew and Greek in order to be able to read the Holy Scriptures pure and unfalsified, so that in the whole Empire, "Lutheran Speech" might prevail; and further that with the exclusive study of the Holy Scriptures, "setting aside all human opinions, the original Catholic apostolic doctrine, i.e., the Luther doctrine, pure and only might remain unfalsified and be held peaceably in the whole Empire."

Great interest in the memorial was expressed, for many of the leaders were aware of the need of reform in the methods of instruction. Landgrave Ludwig von Darmstadt appointed Professors Helwig and Jung, of the University of Giessen, to investigate the new method. About the same time the Duchess Dorothea Maria of Weimar became the devoted supporter of Ratich. At her suggestion, four professors of the University of Jena were commissioned to report on the method. Both of these investigations highly praised this new method of teaching languages.[5] The Duchess Dorothea was so delighted with Ratich that she called him to Weimar to instruct herself, her sons, and her sister—the Princess Anna Sophia of Anhalt—in the Latin tongue. The two sisters remained the warmest friends that Ratich ever had, and through them opportunity came for him to test his ideas.

Besides several minor efforts in which Ratich was given a chance to demonstrate his principles, the most promising opportunity was offered in 1619–1620 by Prince Ludwig von Anhalt-Köthen. He had first met Ratich in Weimar with his sisters, Dorothea and Anna Sophia. At their urgent request, Ratich was invited to Köthen, where Prince Ludwig furnished him buildings, a printing press to supply books and type for six languages, assistants to help him, and all the other equipment necessary for the success of his plans. Nor was this all! To insure a school full of children, the prince resorted to compulsory attendance requirements, enrolling by this method 231 boys and 202 girls.

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[5] Barnard, Henry, *German Teachers and Educators,* pp. 341–342, gives summaries of both reports. Hartford, Brown and Gross, 1878.

The purpose of the school was admirable: that of so instructing and training teachers that they should be able

> . . . to impart to their pupils a thorough, good, and fluent knowledge of any language, especially of Hebrew, Greek, and Latin, in less time, not to exceed half as much, than could be done by any other method usual in Germany, and also with much less pains.[6]

The school was divided into six classes. In the lowest three, the mother tongue was taught; in the fourth, Latin was begun; and in the sixth, Greek. In addition to training in the languages, instruction was given in arithmetic, singing, and religion.

Numerous reasons have been suggested to account for the speedy failure of this school. Prince Ludwig was deeply chagrined and, in a revengeful spirit, threw Ratich into prison for nine months, releasing him only after he had signed a statement in which he acknowledged that he "had claimed and promised more than he knew or could bring to pass." Thus comedy mingles with tragedy in the educational history of this warring age.

The motive which animated Ratich's endeavors must be fully stated. First of all, he was a Christian, with a sincere desire to reform education for the glory of God and the church. But he was an intense partisan of Lutheran theology and could never refrain from showing his hostility toward all other faiths, especially the Calvinistic. Again, he had a carping, selfish spirit. Repeatedly refusing to give his ideas to the public, he declared that he would sell his discoveries only to a prince, at a dear rate and upon the condition that the men of learning to whom he would communicate them should promise to conceal them. He quarreled incessantly with his superiors, into whose service he had entered, and was always suspicious of his subordinates, who were chosen to demonstrate the advantages of his plans. He persisted in promising to reveal some wonder-working principles, but he was always afraid to trust any one to carry them out. In modern education Ratich was the first to originate the idea of a systematic method of instruction; however, he was too crabbed and mean of spirit, too much a charlatan, to accomplish any great reform. And yet, through the efforts of his followers, his principles formed the beginning of a remarkable new development.

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[6] Quoted by Barnard, Henry, *op. cit.*, p. 321.

Ratich's new method. In the study of the Realism of the early 17th century, it is well to remember that attention was not concentrated entirely upon the observation of the outer world. Here and there, leaders were beginning to observe their own inner processes of mind and to understand that the operations of the mental life were also a part of nature. As a result of such observations, Ratich and Comenius criticized the crude methods employed in the schools, and initiated the search for the *method of nature,* which has since dominated modern pedagogy. As a natural sequence, the discussion of the most valuable method for the advancement of scientific knowledge was followed by the search for the best method of conveying that knowledge, when once discovered, to the minds of the young.

Ratich's principles of teaching. Ratich was the first educator who really sought the natural order in which the mind of the child develops. He then undertook to reorganize methods and the curriculum in harmony with the following principles:[7]

(1) *Everything in its order; or the course of nature.* Although this principle was somewhat indefinite, in general it signified that regard must be had for the natural order which the mind of the child follows in learning.

(2) *Only one thing at a time.* One book or one language or one topic only must be studied at a time, and it must be thoroughly mastered before the next is attempted.

(3) *Each thing should be often repeated.* This principle was practiced in the interests of thorough understanding. Ratich had the children read Terence three times in German, and then six times in Latin.

(4) *Everything first in the mother tongue.* Children should first learn German well, before they are taught Latin or any other language. The universal practice in the schools

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[7] The headings are quoted from Barnard, Henry, *op. cit.,* pp. 334–339.

of that day was to plunge boys of five and six years of age into Latin grammar as soon as they knew the alphabet. Ratich reversed this order. His pupils learned first to read Terence in German. Then, knowing what the author was saying, they read the work in Latin. Rules and constructions of grammar were not studied from a text; they were learned from the author by the inductive method, a plan advocated by Ramus. While this procedure was not a great step toward Realism, it was, nevertheless, an important one in that general direction. Even such a change was strongly opposed by some people, because they imagined that this study of grammar, in and by the usage of the author, was somehow an attack upon the Lutheran religion.

(5) *Everything without compulsion.* Ratich's statement of this principle shows profound insight. He declared:[8]

> Boys cannot be whipped into learning or wishing to learn. By compulsion and blows youth are disgusted with their studies, so that study becomes hateful to them.

(6) *Nothing must be learned by rote.* Experience had demonstrated that rote learning weakened the development of the understanding and judgment. Moreover, there was a better way of learning than mere committing to memory, especially without any understanding of what was learned.

(7) *Mutual conformity in all things.* This principle signified that similar subjects—for example, Latin and Greek grammar—should be taught in the same way.

(8) *First a thing by itself, and afterwards the explanation of the thing.* For illustration, rules must not be taught before the materials demonstrating them are presented.

(9) *Everything by experience, and investigation of parts.* This principle may be better stated: Everything through induction and experimentation.

So far as the curriculum was concerned, Ratich was chiefly interested in the acquisition of the Latin, Greek, and Hebrew languages. He was conscious of the failure of Humanism to give the youth a thorough and working knowledge of these tongues. He believed his method could accomplish this end, for either the old or the young. He further believed that, in a year at the most, anyone could learn any language better than his mother tongue; and, with industry, in half a year, if he applied himself to the study for three or four hours a day.

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[8] Barnard, Henry, *op. cit.*, p. 336.

Influence of Ratich. In spite of the obstacles in the way, Ratich's efforts exercised a widespread influence. Reyher and Evenius put them into practice in the reformed school system of the principality of Gotha, under Duke Ernst the Pious. The most important effects of his ideas, however, were found in the influence which Ratich exerted over the great Comenius.

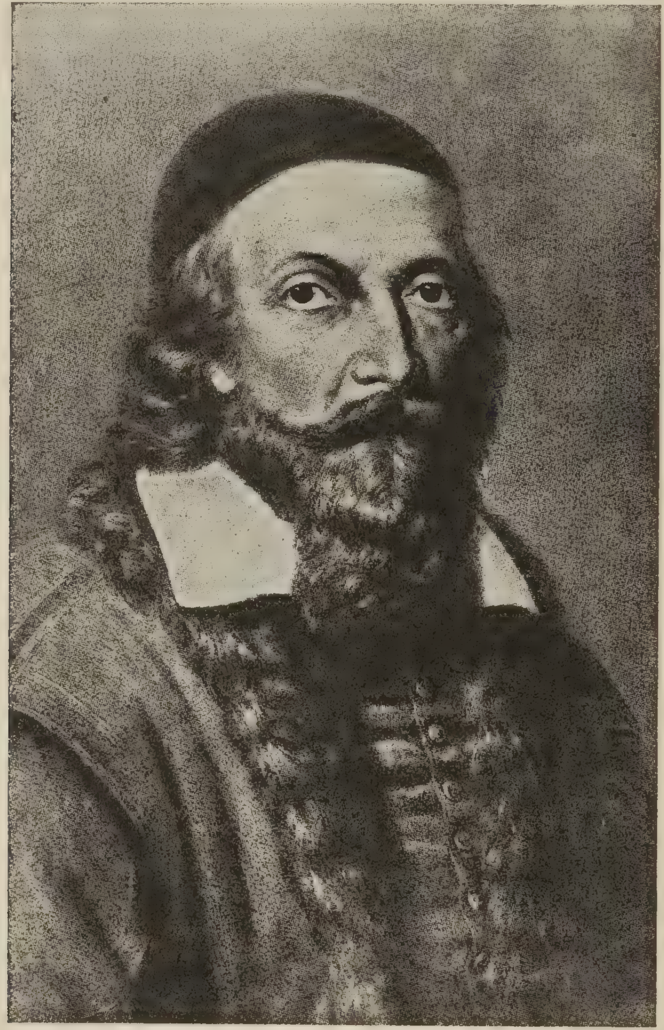
3. John Amos Comenius, the Prophet of Modern Education

I. Life and Work

Childhood and education. None of the great educators is so sincerely admired and so little criticized today as this erudite, wise, amiable, and benevolent bishop of an exterminated people. In the works of Comenius, one feels that a prophet is speaking; he was indeed a colossal figure, but only in recent years have his ideas received the respect they merit.

Comenius—or, as the name was originally spelled, Komensky—was born at Nivnitz, a village of Moravia, in 1592. His people were Slavs, and belonged to the Moravian Brethren who were followers of the reformer John Huss. Doctrinally, they were related to the Wycliffites of England and the Waldensians of central Europe; their religious faith was marked by simplicity, warm-hearted love, evangelical zeal, deep personal piety, self-sacrifice, and humility. Furthermore, interest in education was an outstanding characteristic of these people. They made Prague for a time the most aggressive university in northern Europe; they established elementary and secondary schools, and taught catechism in their homes long before Luther entered upon the work of reforming the church in Germany. Comenius was the product and the representative of this deep stirring of the Moravian spirit for the enlightenment and uplift of the common people.

Both his father and his mother died when Comenius was a young child. Although his father had been a well-to-do miller, his guardians misappropriated his inheritance; as a consequence, Comenius received, at the village school, only a meager education in reading, writing, catechism, hymn singing, and arithmetic. Not until sixteen years of age did he enter a school which taught Latin, in preparation for a scholarly career. There may have been a great advantage in this circumstance, for the sixteen-year-old lad was able to perceive the serious defects in the method of teaching Latin to his fellow victims, who were at least ten years younger than himself.



John Amos Comenius.

Having the ministry in view, at twenty years of age Comenius went, for his higher education, to the College of Herborn, in Nassau. This institution had been established to promote the Reformed Church doctrine, which was more akin to the Moravian faith than the Lutheran theology which dominated most of the German universities. At Herborn, Comenius came under the influence of John Henry Alsted, a Calvinistic theologian who was deeply interested in educational reform. Alsted introduced him to the principles advocated by Ratich and, what was even more important, to the advanced system of education in operation in the adjacent provinces of the Dutch Republic. Profoundly attracted by the new educational movements, Comenius spent some time studying in Amsterdam, which, at the beginning of the 17th century, was the most enlightened center of culture in Europe.

Work as an educator. The period of training over, Comenius returned to his people in Moravia and entered upon a life of alternate tragedies and successes, during which he taught school and wrote many books. As the chief bishop of the Moravian Brethren, he endeavored to succor his people in their horrible persecution and dispersion. At the same time he carried on a correspondence with practically all the great scholars of his day. More than any other man, he focused the attention of the peoples of northern Europe upon education as the supreme means of human progress.

Driven from Moravia by the fiendish religious persecution of the Thirty Years' War and having lost all his property, he settled in Lissa, Poland, where he became rector of the gymnasium. Here he wrote his *Great Didactic,* covering the art of teaching everybody everything; and his *Gate of Tongues Unlocked* (*Janua Linguarum Reserata*), an introduction to the Latin language. These works were followed by *The Vestibule* (*Vestibulum*), which was still more elementary. In 1641, at the solicitation of Samuel Hartlib—a notable philanthropist but best remembered as a friend of John Milton—the English Parliament invited Comenius to lay before it his plans for a college. The purpose of the plans was to endow research. Most unfortunately, an Irish revolt put an end to the whole matter.

An invitation from Ludevic de Geer, a native of Holland but then living in Sweden, induced Comenius to go to that country to lead in reforming the instruction in the schools. In the expectation that its military power would reëstablish the Brethren and give him an opportunity to set up his pansophic college, Comenius sold his services to Sweden. These hopes were sadly disappointed. In Stockholm he was directed by the famous, but all too practical, Swedish Chancellor Oxenstierna and by John Skyte, of the University of Upsala, to write textbooks for their Latin schools. To accomplish this task, Comenius retired to the town of Elbing, on the Baltic Sea, and for six years labored on textbooks, grammars, and lexicons.

At the conclusion of this work, in 1650, Comenius accepted an invitation to establish a school at Sárospatak, in Hungary. He had expected to realize here a life-long dream of a reformed school but, in the end, suffered another disappointment. From 1654 to the end of his life, in 1670, he made his home in Amsterdam, where he devoted his days to writing and to the care of his scattered fellow religionists.

Pansophia. Throughout his whole life Comenius was obsessed by a grandiose scheme for the correlation and advancement of science; this plan he called by the intriguing name *Pansophia*—that is, "Universal Wisdom." The scheme included three aspects: (1) In the first place, it comprehended the publishing of an encyclopedia of universal learning. This idea may have come to him from Alsted, his professor at Herborn. Among his one hundred and twenty works, this truly prolific scholar had himself published an encyclopedia. Comenius planned a new encyclopedia, to which he intended that all of Europe's men of science would contribute. Working independently of each other, without a clearing house, these men were often ignorant of what had been accomplished even in their own fields. An exhaustive statement of all science, Comenius believed, would coördinate and assist its progress. (2) Again, from Bacon, Comenius had received the idea of promoting scientific discovery by establishing a college in which not only laboratories for scientific research but all the other necessary conditions would be available. (3) Finally, in his planning he went further than the others had gone. He saw that teaching and research were interdependent. In consequence of this insight, he came to the problem of finding a new method of instruction by which every individual, to the limit of his capacity, might avail himself of the benefits of knowledge in all fields of human learning.

Pansophic plan of education. Comenius' plan of pansophic education comprehended the art of teaching everyone everything. The ideal which inspired the amiable bishop in all his efforts was the noble vision of so educating every child that he might share, to the full extent of his capacities, in all knowledge and social life. Like practically all theologians of that era, Comenius accepted the doctrine of human depravity; in his case, however, this belief was merely incidental. He believed that the forces making for goodness are stronger than those leading toward evil. Man still retains, though greatly marred, the image of his Creator; and this original goodness shows itself in man's desire to return to his former state of perfection. Comenius possessed a sublime confidence in the improvability of the race. He repeatedly affirmed that the seeds of knowledge, virtue, and piety are found in all normal individuals, and are susceptible of unlimited cultivation. No educator has had a stronger faith in the power of education to save the race and thus to bring it back to the divine ideal.

Democracy in education. Another fundamental characteristic of Comenius was his profound sympathy for the common people. No great champion of the education of the lower classes had yet risen into prominence in educational history. Martin Luther had approached this broad conception but in the end fell short of achieving it. Even the provisions of the Synod of Dort, which required the establishment of village schools, had not emphasized complete democracy in education. The emphatic declaration of Comenius was strikingly novel in an age moving rapidly toward political absolutism.[9]

> The education that I propose includes all that is proper for a man, and is one in which all men who are born into this world should share. All there, as far as is possible, should be educated together, that they may stimulate and urge on one another.

Children are not born human, but must become human by proper training in society. Comenius had in mind certain children who, separated from society, had grown up as wild animals. All are born to become men, and must therefore be educated. Not to educate them is to act contrary to God's purpose. Comenius employed the term "Christian Republic" to designate the organization of society. This was truly an astounding point of view at the beginning of the 17th century —a prophecy of the doctrine of equality of all men, a century and a half later. Opposing the separate Latin school for the training of an aristocratic class, Comenius declared emphatically: "From this view my whole didactic system forces me to dissent." Again, he demanded that admission to the Latin school should not "be reserved for the sons of rich men, nobles and magistrates."

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[9] Keatinge, M. W., *The Great Didactic of John Amos Comenius*, p. 418. London, Adam and Charles Black, 1896.

> We wish all men to be trained in all the virtues, especially in modesty, sociability, and politeness, and it is therefore undesirable to create class distinctions at such an early age, or to give some children the opportunity of considering their own lot with satisfaction and that of others with scorn.

What can be the explanation of this thoroughly democratic attitude? It would be decidedly an error to assign it wholly to the originality of Comenius. In his breadth of sympathy and his educational thinking generally, he was expressing the profound strivings of the Moravian Brethren. Their spirit of democracy can be gaged from their attitude toward the nobility, to whom for a long time they refused church fellowship until the nobles relinquished their titles. Interpreting the principles of Christianity, as found in the New Testament, realistically, they believed that within the "Christian Republic" all members are indeed brethren and without distinction of rank.

In Comenius, for the first time in the history of culture, one finds a truly great representative of those evangelical, nonconformist groups of people who were the doctrinal descendants of the early Waldensian movement. Broadminded as were the Calvinists, none of their varied branches approached the genuine liberalism and democracy of Comenius, who proclaimed: [10]

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[10] *Ibid.*, pp. 423–424.

> We are now seeking a way by which the common people may be led to understand and take an interest in the liberal arts and sciences.

II. PLANS FOR EDUCATIONAL ORGANIZATION

Aim of education. The purpose of the *school of universal wisdom* (*Schola Pansophica*), may be taken as Comenius' aim for all education: [11]

> They will learn, not for the school, but for life, so that the youths shall go forth energetic, ready for everything, apt, industrious, and worthy of being intrusted with any of the duties of life, and this all the more if they have added to virtue a sweet conversation, and have crowned all with the fear and love of God. They will go forth capable of expression and eloquence.

Three words summarize his educational aim: knowledge, virtue, and piety. Comenius deduced these from man's capacity to know all things and to do all things, and from his relation to God. It will be well to compare this statement of the aim of education with that of Sturm, which was: piety, knowledge, and the art of speaking (*sapiens atque eloquens pietas*). This outstanding humanistic schoolmaster made everything contribute to oratorical skill; Comenius, on the other hand, made piety the supreme purpose. Of this he said: [12]

> Our schools, therefore, will then at length be Christian schools when they make us as like to Christ as is possible. How wretched is the teaching that does not lead to virtue and to piety.

The aim of education is to teach all men everything. "Charity bids us not niggardly to withhold from mankind what God has intended for the use of all, but to throw it open to the whole world." Comenius had a strong belief in the power of education to regenerate human life; he was convinced that "there is no more certain way under the sun for raising sunken humanity than the proper education of the young."[13]

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[11] Laurie, S. S., *John Amos Comenius,* p. 200. Syracuse, C. W. Bardeen, 1892.

[12] Keatinge, M. W., *op. cit.,* p. 226.

Function of the school. To attain his educational objective, Comenius believed three things were necessary: good textbooks, good teachers, and good methods. These constitute the school, the nature of which is variously described. The school is called a *schola*, or *ludus literarius*—that is to say, an institution where children, for the time being, live and work together toward some end, under conditions which resemble the activities of the playground. The school must provide opportunity for movement, spontaneity, social relations, rivalry, good order, and, finally, pleasurable exercises in learning.

Significant as was his belief in the possibilities of individual and racial improvement, Comenius held another principle which showed even more profound and brilliant insight. This was the conviction that education is the indispensable process by which the young are made human. He cited several cases in which infants deprived of all human association and care grew up like animals. From this he concluded that education is an absolutely essential process, in order to develop children into human beings; moreover, this process must begin at birth and not merely when the children enter school. From this point of view, of education as an indispensable need, he termed the school a forging-place or manufactory of humanity (*Officina Humanitatis*). Comenius did not intend to stress the idea of training as a mechanical process; he desired merely to emphasize the necessity of training. Insufficient psychological knowledge led him to overdo the use of analogies. The conception of the school as a garden in which children grow as plants, would have expressed his general conceptions just as well; in fact, this idea was frequently in his mind when he was considering the processes of development. However, the transformation from the animal to the human level is so much more significant than the development from childhood to manhood that he chose the analogy of the forging-place.

In projecting his school, Comenius held clearly in view the glaring defects and failures of the schools of his time. Both the humanistic Protestant schools and the Catholic institutions, as fostered by the Jesuits, had succeeded only in furnishing the memory of students with choice Latin verbiage and rhetorical phraseology. The ability of students to observe with their own eyes, or to think with their own minds, had not been exercised.[14]

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[13] *Ibid.,* p. 166.

> The result is that most men possess no information but the quotations, sentences, and opinions that they have collected by rummaging about in various authors, and thus piece their knowledge together like a patchwork quilt. "Oh you imitators, you slavish pack!" cries Horace. A slavish pack indeed, and accustomed to carry burdens not their own.

In such fervent language Comenius pleaded for independent thinking: to see with one's own eyes, and to become wise by using one's own mind.

Organization of the school system. Comenius' generous concepts regarding the functions of education were to be realized in a clear-cut system of schools. Anticipating the present-day point of view, he took as his guiding principle in the grouping of the grades the normal periods, or stages, in the growth of the child to maturity, at twenty-four years of age. His school system is divided into four levels of six years each; to each age-level, or school, special functions are assigned, in accordance with the needs of the particular stage of development. The four schools are outlined by Keatinge as follows: [15]

I. For infancy	the	The mother's knee.
II. For childhood	school	The Vernacular-School.
III. For boyhood	should	The Latin-School, or Gymnasium.
IV. For youth	be	The University and travel.

> A Mother-School should exist in every house, a Vernacular-School in every hamlet and village, a Gymnasium in every city, and a University in every kingdom or in every province.

To appreciate how far such a comprehensive program was ahead of the age, one must recall that at this time there were practically no schools in the villages of any of the countries and that the only instruction available for the great majority of children was religious.

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[14] *Ibid.*, p. 300.

[15] *Ibid.*, p. 408.

As a thoroughgoing, practical schoolman, Comenius specified numerous other details of organization that were new. All schools shall begin at a uniform date, year after year, and children shall be admitted at no other time. A daily and yearly schedule of work shall be followed: [16]

> The subjects of instruction are to be so divided that each year, each month, each week, each day, and even each hour may have a definite task appointed for it.

A separate room with a special teacher shall be appointed for each class. Furthermore, texts shall be prepared embodying all the work of each class.

The practical schoolmaster is further seen in the daily schedule that Comenius prepared. He objected to the rigorous practice of forcing young children to study six or eight hours a day. For younger children, he specified four hours of school work a day; for older ones, six. No home work shall be required, as it is apt to be done badly—a strange prophecy of a similar attitude in some American schools of today. A half hour of relaxation shall follow each class, and holidays shall be frequent but not prolonged. The morning hours shall be devoted to work which taxes the intellect and memory; the afternoon, to handwork, music, and practice of style and demeanor. The last provision is another example of how strikingly Comenius anticipated modern innovations —in this case, the science of school hygiene.

Simultaneous or class instruction; textbooks. Until the time of Comenius, although pupils were graded in a general way into large groups, they were not taught together in classes. No method was known by which instruction could be given to all the pupils in a class at the same time; each individual was taught separately. This lack greatly hampered the progress of instruction. Comenius undertook to show how a single teacher could "teach a number of boys, no matter how great, at one time." He explained fully, by a series of methodical directions, how this should be done. Thus

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[16] *Ibid.*, p. 326.

Comenius anticipated, by over half a century, the practice of simultaneous instruction adopted by the Brothers of the Christian Schools; and, by almost two centuries, the similar practice of Pestalozzi, who finally introduced simultaneous instruction into permanent school practice. There is also to be found in Comenius the idea of mutual instruction carried out by Bell and Lancaster at the beginning of the 19th century. This method is discussed more fully later in this chapter.

Another great difficulty in the 17th-century schools was the lack of uniformity in textbooks. Books were still scarce because they were expensive. Boys took to school whatever texts they had most readily at hand, and used them to learn Latin. The medieval custom of copying the text from the dictation of the teachers, as Comenius pointed out, was a waste of time. He wanted each pupil to have his own copy of the common text, and, furthermore, each class to have a text containing everything to be taught in that particular class.

I. School of infancy. Education begins at birth; the home is, therefore, the first school. Comenius was the first to appreciate the full significance of these facts. In this he anticipated the great educational thinkers of later centuries, and gave the world a sketch of pre-school training which is astonishing in its completeness. His small book *The School of Infancy* is filled with information and suggestions that testify to his extraordinary insight into the nature and needs of young children. One is amazed at his detailed observations of the activities and capabilities of pre-school children. Unlike most treatises of this kind, it is not a compilation of broad generalizations. Comenius stated in detail what should be done for children at each successive year of life. Nor is the book confined to a few phases of child training; but it comprehends every aspect of education: physical, mental, expressional, manual, moral, social, and religious.

Furthermore, as Comenius had set out to teach each child something of every subject, one is not surprised to find in his course of training, even at this stage, the fundamental facts of all the sciences. The foundations of encyclopedic knowledge are laid in the observations made by the children themselves. The school of infancy has as its special functions the employment and exercise of the external senses, early social training, and instruction in religion. But in all these functions Comenius did not propose any activity beyond the scope of the real, spontaneous interests of normal children. Moreover, he was a strong advocate of fairy tales, Mother Goose rhymes, and stories; play; manual constructivity; music; and even of humor.

II. Vernacular school. The suggestion of this school constituted the greatest innovation urged by Comenius in the reorganization of education. It was a radical departure in several ways. Up to this time practically no schools had been established in the smaller villages and hamlets of any land. In several of the provinces of Holland, such a step had been undertaken, particularly for religious education, and was later required by the Synod of Dort, in 1618. But Comenius went farther than either of these movements; he demanded a well-rounded elementary education for every child, poor or rich, high-born or low, boy or girl. All children were to be instructed together in the same schools—an unheard-of policy in an age reeking with aristocratic aloofness. Nor was this all. It was to be obligatory that every child attend the vernacular school, for it served both to furnish the elementary training necessary for children who had to enter a vocation upon leaving school, and, at the same time, to give preparatory training to those entering the Latin school. European peoples always provided a different type of institution for the lower classes of society than they did for the learned classes and the nobility; but not so Comenius.

The most striking characteristic of the vernacular school has, however, not yet been stated. It was the requirement that pupils must spend six years in the study and use of the vernacular tongue before they take up the study of Latin. This innovation had been suggested by Ratich and a few others, but none of them were willing to go so far as to postpone the study of Latin, for all children, until the thirteenth year.

According to Comenius' program, the vernacular school should train "the internal senses, the imagination and memory in combination with their cognate organs." The course of study includes reading, writing, practical arithmetic, singing, religion, morals, economics and politics, general history, cosmography, and the mechanical arts. It is an institution where all children are trained in all the arts of common humanity.

III. Latin school or gymnasium. In the plan of Comenius, the Latin school is not a special educational route which only the learned or higher classes may travel, as has always been the case in European education. This school was designed as the institution for the development of the adolescent age. All boys "who aspire higher than the work shop" were to receive this training. Comenius was not in the least afraid that large numbers would be trained above their station in life; he had confidence that such knowledge and training would be beneficial to the student, even if his lot in life were a humble one.

Psychologically, the purpose of the Latin school is to train the pupil "to understand and pass judgment on the information collected by the senses" in the former period of life. The means to this end are logic, grammar, rhetoric, and the sciences and arts "that are based on principles of causation." In other words, in this school the higher faculties of the mind are to be exercised. Four languages are to be learned: the vernacular, Latin, Greek, and Hebrew—though it is clear that the vernacular and Latin are to receive the chief emphasis. For the introduction to Latin, Comenius prescribed his own texts. The curriculum of the school is to be comprehensive, including, as it does, an encyclopedic knowledge of the arts and sciences.

The Latin school is divided into six classes, or years, called: grammar class, natural philosophy class, mathematical class, ethics class, dialectic class, and rhetoric class. Finally, it must be added, Comenius provided that a Latin school shall be found in every city and town, where all who wish may attend.

IV. University and travel. The university course and travel form the highest level of education. To this end, it was suggested that a university be established in every province or kingdom. Comenius did not expect any but the brightest students, who were also of high moral character, to enter the universities. The selection was to be made by a public examination of the students who completed the course of the Latin school.

It is curious that Comenius believed the special mental faculty to develop at this age to be the will. In this idea he evidently had in view the student's interest in professional training for vocational life.[17]

> To the University belong those subjects that have special relation to the will, namely, the *faculties,* of which theology teaches us to restore harmony to the soul; philosophy, to the mind; medicine, to the vital functions of the body; and jurisprudence, to our external affairs.

In addition to preparing candidates for the ministry, medicine, and law, Comenius recognized the duty of the university to train teachers and leaders for the state. He believed that "the curriculum should be really universal, and provision should be made for the study of every branch of human knowledge." He fully recognized that research or the advancement of learning is also a function of the universities—a function, however, which he hardly expected them to perform. He believed that the progress of the sciences could be more successfully brought about by the coöperation of scientists throughout all countries. Furthermore, like the other educators of his day, Comenius believed in the advantages of travel in furnishing direct information concerning human nature and its institutions. He felt that such experience should follow the university career, after moral habits were fully formed.

III. Educational Psychology

Educational psychology. Among his numerous treatises Comenius did not include a special discussion of psychology; yet all of his principles and methods of instruction were based upon a fairly well-formed theory of the mental life and the growth of child nature. He possessed a remarkably acute capacity for observation of phenomena in many fields: he observed carefully the development of plants and animals, the operation of the manual arts and crafts, and the spontaneous activities and interests of children.

Another strong trait, but one which frequently led him into vagaries of imagination, was his life-long habit of reasoning from analogy. Because of this habit he sought the basis for his principles of method too frequently in the analogies of external nature and the mechanical arts. He understood clearly the idea that the true basis of educational science must be the process of natural growth of the child. Among his numerous statements of this principle is the following example: [18]

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[17] *Ibid.,* p. 409.

> Let our maxim be to follow the lead of nature in all things, to observe how the faculties develop one after the other, and to base our method on this principle of succession.

He was firmly convinced that "the exact order of instruction must be borrowed from nature." However, he did not clearly distinguish external nature and its processes from the inner conduct of the mind.

The greatest weakness of Comenius' ideas arose from the lack of a deep and accurate knowledge of the mental life. Lacking something better, he utilized the psychological conceptions that had come down from Aristotle, and also those of Vives. A belief in "faculties" was generally accepted, and Comenius did not possess knowledge enough to dissent from this point of view. In spite of this lack of correct knowledge, however, one is amazed at the profound wisdom of Comenius' innumerable principles. His conceptions of the mind, far more than those of any other thinker of his time, in a broad general way accord with the functional view of the present day.

Knowledge through the senses. Concerning the source of knowledge, whether it is innate or acquired through the sense organs, Comenius left no doubt as to his point of view. The five senses are the gateways to man's soul. He accepted the old, common-sense doctrine "There is nothing in the intellect which was not previously in the senses" (*Nihil in intellectu quod non prius in sensu*). This doctrine formed the basis of the principles of method which he applied in the school of infancy and in the vernacular school.

Imagination. This faculty is the inner sense, just as seeing and hearing are outer senses. It develops later than sensibility and is vastly important in the development of the child's knowledge and spiritual being.

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[18] *Ibid.*, p. 409.

Memory. This faculty is also highly important in the education of the young; but teachers had appealed to it too much and, as a result, instruction had become a mere cramming process. Comenius held the popular fallacy that the memory can be developed and strengthened through practice. On this point he quoted Vives: [19]

> The memory should be exercised in early youth, since practice develops it, and we should therefore take care to practice it as much as possible. Now, in youth, the labor is not felt, and thus the memory develops without any trouble and becomes very retentive.

In this connection, as with other aspects of the mind, Comenius believed firmly in formal discipline. But he had the wisdom to discern that, before anything is committed to memory, there must be a "clear, firm, and true impression on the senses"; and again, that nothing must be memorized which has not previously been fully discussed and clearly understood. Writing, pictures, and repetition establish impressions more permanently and are constantly to be employed. For this purpose he advised the greater use of blackboards, diagrams, and other similar means. However, it must be stated that he placed a limit on the use of this faculty, permitting only the most important things to be memorized.

Reason or understanding. This faculty, according to the psychological views of Comenius, "measures and determines, what, where, and how far anything should be sought after or avoided." He does not assign to reason a function so high as is usually given to it; yet he valued it more than did the schools of his day. The faculty of judgment has as its function to utilize the materials brought to the mind through the senses and the imagination. Judgment emerges especially during the adolescent years of life when reflection and reasoning are the nascent developments.

Emotions and will. Comenius was greatly in advance of his time in recognizing the prime importance of the emotions of children and in diagnosing their relation to the process of education. This aspect of child nature had never before received sympathetic consideration. In his insistence upon interest, attention, and sense of need or desire in connection with everything to be learned, he anticipated present-day theories. He would foster the native curiosity, or "desire to see, hear, or handle everything new." He recognized that in these emotional tendencies nature provides the inner striving after knowledge. Every study must be commenced in such a manner as to produce a real liking for it, and should continue to be regarded as pleasant and desirable. Good methods of instruction are the only means necessary to incite the desire to learn; the true teacher need not resort to artificial incentives. The desires or affections influence the will and determine the character. Thus Comenius assigned the foremost place in human experience to the will and moral nature, which form the capstone in the course of development.

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[19] *Ibid.,* p. 304.

Individual differences. Educational theorists from time immemorial, recognizing that all children are not alike, had insisted that they should not be treated in precisely the same manner. In spite of these numerous admonitions, schoolmasters had not learned to adapt their methods to individual differences, largely because of a lack of clear perception of the nature of the differences which characterize children, and, also, because of ignorance as to methods of dealing with them. Comenius pointed out some of the chief differences and discussed how to deal with them wisely.

Adaptation to stage of development. The principle of fitting instruction to the comprehension of the child was one of Comenius' chief contributions to educational science. He possessed an extraordinary understanding as to what children knew at each stage of development, what they could comprehend, and in what they were interested. Such information had long been known in a vague sort of way, but was still largely disregarded in school practice and textbooks. For the course of instruction which he recommended, Comenius proposed a text covering each year of school life; in each of these texts he set down, in graded order, everything suitable to the comprehension and interest of the child. He believed that development is not merely a gradual and uniform unfolding, but rather that each stage has its own dominant and nascent tendencies:[20]

> To attempt to cultivate the will before the intellect (or the intellect before the imagination, or the imagination before the faculty of sense perception), is mere waste of time. But this is what those do who teach boys logic, poetry, rhetoric, and ethics before they are thoroughly acquainted with the objects that surround them. It would be equally sensible to teach boys of two years old to dance, though they can scarcely walk.

In his conception of the stages of development, Comenius attempted, in the 17th century, to give education the scientific foundation which it finally adopted at the close of the 19th century.

Exercise versus formal discipline. Comenius' theory of discipline is expressed very clearly in *The Great Didactic.* He believed that the increase of power comes through the exercise of particular and not of general functions. On this point he wrote:[21]

> What has to be done must be learned by practice. Artisans do not detain their apprentices with theories, but set them to do practical work at an early stage; thus they learn to forge by forging, to carve by carving, to paint by painting, and to dance by dancing. In schools, therefore, let the students learn to write by writing, to talk by talking, to sing by singing, and to reason by reasoning.

IV. THE CURRICULUM

Pansophic curriculum. The curriculum proposed by Comenius is all-comprehensive or encyclopedic in scope. Everyone is "to know all things, to do all things, and to say all things." Every subject is to appear in the course of study in each one of the schools.[22]

> There is nothing in Heaven or Earth, or in the Waters, nothing in the Abyss under the earth, nothing in the Human body, nothing in the Soul, nothing in Holy Writ, nothing

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[20] *Ibid.,* p. 409.

[21] *Ibid.,* p. 347.

[22] Laurie, S S., *op. cit.,* pp. 199–200.

> in the Arts, nothing in Economy, nothing in Polity, nothing in the Church of which the little candidates of Wisdom shall be wholly ignorant.

In the 20th century, nobody in his right senses would hazard such a suggestion, and even three hundred years ago it was a palpable exaggeration. However, modifications render the suggestion somewhat more reasonable. First of all, Comenius intended, not that all the details of each subject should be fully mastered, but merely that the outlines, or principal ideas, should be learned. Furthermore, by a careful grading of the materials and by the application of the best methods of instruction, he confidently expected to advance the pupils far beyond what the schools were teaching.

Although it is not necessary to list all the subjects of study which he advocated, a few of his more revolutionary suggestions may well be mentioned. So far as language is concerned, he would give less attention to Latin, Greek, and Hebrew than was the custom, but exalted the vernacular, and, what is particularly worthy of note, he advocated the study of modern foreign languages "for the sake of holding intercourse with neighbors."

The charge has been made that Comenius, although the author of the most popular Latin textbooks in his day, was in reality not a Latin scholar. He freely admitted the justification of this criticism. The fact is, Comenius was in no sense a genuine Humanist, though he wrote texts to facilitate the learning of the Latin language. He did not thrill to the charm of Ciceronian eloquence and did not reverence classical literature. For a memory well-stocked with the brilliant phrases of classical orators, he had only contempt. Furthermore, he flatly denied the supreme claim of Humanism—the moral value of pagan literature. The truth is that he wished to boot the entire pack of classical writers out of the schoolroom. He desired to do this in the interest of the moral and spiritual welfare of the pupils.

For Comenius, languages are not an end in themselves but are to be employed in discussing scientific and practical subjects, which were at that time just finding their place in the course of study. Regarding classical writers he declared:[23]

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[23] Keatinge, M. W., *op. cit.*, p. 383.

> If we wish our schools to be truly Christian schools, the crowd of Pagan writers must be removed from them. . . . Our zeal in this matter is caused by our love of God and of man; for we see that the chief schools profess Christ in name only, but hold in highest esteem writers like Terence, Plautus, Cicero, Ovid, Catullus, and Tibullus. The result of this is that we know the world better than we know Christ.

Again, he said later:[24]

> Some one else may object: "They are not all lascivious writers. Cicero, Virgil, Horace, and others are serious and earnest." I answer: None the less, they are blind pagans, and turn the minds of their readers from the true God to other gods and goddesses.

Comenius, finally relenting to a slight degree, admitted that such moralists as Seneca, Epictetus, Plato, and even the other writers, may be read by Christians who are sufficiently established in faith so that their morals will not be corrupted. As a matter of fact, Ratich, Alsted, Andreä, and Comenius agreed that all sciences must be in harmony with the Holy Scriptures.

The Latin language as well as the vernacular is to be employed in learning the encyclopedic arts and sciences. These include the trivial and quadrivial subjects: grammar, rhetoric, dialectic, arithmetic, geometry, astronomy, and music. In addition, Comenius included physics, geography, chronology, history, morals, and religion. For history he had extraordinary regard:[25]

> An acquaintance with history is the most important element in a man's education, and is, as it were, the eye of his whole life. This subject, therefore, should be taught in each of the six classes, that our pupils may be ignorant of no event which has happened from ancient times to the present day.

The insistence upon the manual arts and industry in connection with the vernacular school is highly instructive. The most revolutionary suggestions came, however, in the field of recreation. In the interests of happiness and health, Comenius advocated plenty of physical activity and play.

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[24] *Ibid.*, p. 395.

[25] *Ibid.*, p. 432.

The kindly old bishop looked upon children not only with an indulgent but also with a discerning eye. He was wholly free from that carping spirit, so common among puritanic theologians, which believes the sports, games, and plays of childhood are due to the presence of human depravity. He was the first to understand that the play life of the child is nature's method of building a healthy, vigorous body and a normal, keen mind. To this end he encouraged all the play activities.

Comenius revealed his most unique insight when he urged the development of the sense of humor or wit as a means of education. No other educator has gone quite so far as he in his declaration that children "ought to be taught, and that thoroughly, to understand what is said in a joke." Moreover, humor is not to be indulged merely for idle fun, but it should be employed "for the purpose of sharpening their intellects." [26]

Useful knowledge only. The Baconian principle of utility dominated the thinking of the 17th century. In spite of his encyclopedic interests and his theological conceptions, Comenius demanded useful knowledge.[27]

> Nothing should be learned solely for its value at school, but for its use in life. . . .
>
> Whatever is taught should be taught as being of practical application in every-day life and of some definite use. That is to say, the pupil should understand that what he learns is not taken out of some Utopia or borrowed from Platonic Ideas, but is one of the facts which surround us, and that a fitting acquaintance with it will be of great service in life. In this way his energy and his accuracy will be increased.

Although such quotations emphasizing the principle of usefulness are very abundant in the writings of Comenius and of his contemporaries, it must not be concluded that he was, therefore, a low utilitarian. The "useful," or "practical," has a broad interpretation in his thinking; the term comprehends everything "of undoubted use in this world and in the world to come." Nature produces nothing that is useless. Consequently, all facts are of value and, in teaching them, the teacher should show the pupil wherein they are of use.

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[26] Monroe, Will S., *Comenius' School of Infancy*, p. 41, Boston, D. C. Heath, 1896. Cf. Keatinge, M. W., *op. cit.*, p. 422.

[27] Keatinge, M. W., *op. cit.*, p. 341.

Method. "Comenius is to be regarded as the true founder of modern method," says Professor Laurie.[28] One may well question whether a greater student of method of instruction has yet arisen. Just a few years ago an American educational publisher wrote: [29]

> I do not believe a more practically helpful treatise on method was ever published; certainly there is no other at once so broad and sound and suggestive.

Comenius' interest in method was born of bitterest grief over the memory of his own wasted years, which, he testified, had "wrung sighs from my breast, drawn tears from my eyes, and filled my heart with sorrow." [30] This is his view of the methods used in the schools of his boyhood: [31]

> The method used . . . has generally been so severe that schools have been looked on as terrors for boys and slaughter-houses of minds in which the great number of the students have contracted a dislike for learning. For five, ten, or more years they detained the mind over matters that could be mastered in one. What could have been gently instilled into the intellect, was violently impressed upon it, nay, rather stuffed and flogged into it.

The great purpose of Comenius so far as method was concerned was to find how instruction might be imparted (1) surely and thoroughly, (2) certainly and clearly, and (3) easily and pleasantly. These same terms had been used by Andreä and remind one of the criteria of knowledge set up by Descartes. With wonderful skill Comenius analyzed the principles that will bring about such results in learning.

In his observations of nature, Comenius saw many operations that by analogy suggested principles of instruction. He used such analogical material in great profusion. A few examples may be given:

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[28] Laurie, S. S., *op. cit.*, p. 222.

[29] Bardeen, C. W., Preface to Laurie's *John Amos Comenius.*

[30] Keatinge, M. W., *op. cit.*, p. 232.

[31] *Ibid.*, pp. 229–230.

(*a*) *Nature observes a suitable time.* The birds hatch their eggs in the spring, and the gardener plants his seeds at that season. From this, Comenius drew the principle that "the education of men should be commenced in the Spring time of life."

(*b*) *Nature prepares the material before she begins to give it form.* In the schools the study of form precedes the learning of subject matter. For illustration, languages are taught before the sciences, which is to teach expression before the child has knowledge to express. The method of nature proceeds differently; it teaches things and language together.

(*c*) *In all the operations of nature, development is from within.* A subject should be thoroughly understood by the child before he is called upon to memorize any definitions. Grammar is the most striking example of the application of this new method.

(*d*) *Nature, in its formative processes, begins with the universal and ends with the particular.* In instruction, the large, simple, general elements come first; details follow.

(*e*) *Nature makes no leaps, but proceeds step by step.* A chicken develops slowly and without sudden changes. So all studies should be carefully graded by minute steps.

(*f*) *Nature compels nothing to advance that is not driven forward by its own mature strength.* From this analogy, Comenius derived the idea "that nothing should be taught to the young, unless it is not only permitted but actually demanded by their age and mental strength."

There are many more such analogical principles. It is clear that they have no value to modern educational thought. Comenius was unfortunate in having an inadequate understanding of psychology.

Everything through the senses. This is another of the fundamental principles which Comenius frequently repeated. He was the first great, thoroughly consistent Sense-Realist. Vives, as indicated in an earlier chapter, preceded him in the statement of this idea; and Comenius, here as always, frankly avowed his indebtedness, for it was from Vives that Comenius received his initial impulse toward Sense-Realism. But he is even more emphatic than Vives, and reminds one forcibly of Locke, whose *tabula rasa* theory he anticipated, and of Pestalozzi, whose practice he surpassed in common-sense applications. Sense impressions must come from real and useful things. Comenius referred to Aristotle's comparison of the mind of man to a blank tablet. He compared "the brain, the workshop of thought, to wax," which receives impressions made upon it. The sense organs are the means through which impressions of things are made upon the mind.[32]

> Whatever makes an impression on my organ of sight, hearing, smell, taste or touch, stands to me in relation of a seal by which the image of the object is impressed upon my brain.

The employment of substitutes for things he would not countenance:[33]

> Those things, therefore, that are placed before the intelligence of the young, must be real things, and not the shadows of things. I repeat, they must be *things;* and by the term I mean determinate, real, and useful things that can make an impression on the senses and on the imagination. But they can only make this impression when brought sufficiently near.
>
> From this a golden rule for teachers may be derived. Everything should, as far as is possible, be placed before the senses. . . . The commencement of knowledge must always come from the senses (for the understanding possesses nothing that it has not first derived from the senses).

If the thing is not available, representations may be used. The walls of the room should be hung with pictures, and books should be full of them. Charts, maps, drawings, diagrams, models, engravings, and other apparatus should be freely employed. Comenius insisted: Let not only one sense, but "let every sense be engaged in the perception" of the object. It is quite astonishing that a principle so fully expounded in the 17th century should have remained unheeded for almost two hundred years. Unquestionably there must have been reasons for this strange pedagogical indifference to an obvious principle.

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[32] *Ibid.*, p. 197.
[33] *Ibid.*. pp. 336–337.

Grading of subject matter. So far as subject matter is concerned, Comenius was the first to apply a system of grading on the basis of psychological ability. The inability of the educators of past ages to understand the minds of children led them to foist upon their pupils the rules and principles of grammar, rhetoric, logic, and other subjects which the children could memorize but were incapable of comprehending. Comenius discerned the trouble and, by skillfully grading the steps of acquisition, sought to help the child to build up knowledge. In this grading of subject matter, Comenius set up definite standards of achievement for each year of training. In regard to the lack of definite standards, he complained:[34]

> No fixed landmarks were set up, which might serve as goals to be reached by the scholars at the end of each year, month, or day, and there was a complete lack of system.

The method of nature must be followed: nature makes no sudden leaps, but proceeds step by step. All studies should be carefully graduated in such a way that those coming first may prepare the way for and throw light upon those that follow. Again, he perceived the laws which govern the grading of subject materials: nature advances from the whole to its parts, from what is easy to what is more difficult, from the simple to the more complex, and from the concrete to the abstract.

Everything without compulsion. The common use of the rod to drive children to learning is clear evidence of the unfortunate lack of true educational insight in that day. Against this method Comenius threw the full weight of his power:[35]

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[34] *Ibid.*, p. 313.

[35] *Ibid.*, p. 291.

> No blows should be given for lack of readiness to learn; for if the pupil does not learn readily, this is the fault of no one but the teacher, who either does not know how to make his pupil receptive of knowledge, or does not take the trouble to do so.

This was quite a new attitude, which most schoolmasters were incapable of appreciating. Comenius, as Ratich and Lubinus before him, would not require anything by force. He relied implicitly upon the propulsion of inner desires, interests, and the instinctive curiosity of the pupil. Nature, he believed, had implanted the seeds of knowledge, virtue, and piety in the child, and these potentialities are compelled by inner force to develop just as an acorn under the proper conditions will burgeon into an oak. Those who drive boys to studies do them great injury. The school should be a pleasant and happy place. The intellect should be forced to nothing for which it does not have a natural bent. Learning should always be made attractive.[36]

> A rational creature should be led, not by shouts, imprisonment and blows, but by reason. Any other method is an insult to God, in whose image all men are made, and fills human affairs with violence and unrest.

Socialization. In many of his principles Comenius was in advance not only of his own day but of the present time also. Thus he advocated the advantage of encouraging pupils to tell others what they have learned. He was well aware that teaching others is an excellent means of clarifying and fixing what one is learning. Of this practice he said: "Whatever has been learned should be communicated by one pupil to the other that no knowledge may remain unused." Again, he quoted Fortius to the effect that, if a student wishes to make progress, he should arrange to give lessons daily in the subject which he is studying, even if it is necessary to hire the pupil. In this principle Comenius recognized knowledge and expression as coördinates which must always proceed together, for knowledge is a social commodity, and is most readily acquired when a need is felt to communicate it to others.

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[36] *Ibid.*, p. 208.

He approved the plan of socialization by forming classes and the school as a whole into "a republic, with its senate and proctor, which will hold sessions occasionally, and pronounce judgment on conduct."[37] In this manner he would train the individual for self-government and social life. His Latin school at Sárospatak was organized in the same fashion as a Latin republic.

Integration or correlation. Another fundamental principle which Comenius recognized is that of properly combining, or integrating, the materials that are learned. It was customary in the elementary schools to teach children to read, but they were not taught to write until many months later. In the Latin schools of Comenius' day, boys spent years learning words without knowing their meanings. Moreover, grammar was pursued for a long time as the major study.

In all these practices the teachers were following the faulty principle of Ratich which declared that one thing, and only one, should be taught at a time. To this principle Comenius objected. He was of the opinion that no sense or faculty should be brought into action by itself; rather, always a number of senses and faculties should operate together.[38]

> The sense of hearing should always be conjoined with that of sight, and the tongue should be trained in combination with the hand. The subjects that are taught should not merely be taught orally, and thus appeal to the ear alone, but should be pictorially illustrated and thus develop the imagination by the help of the eye. . . .
>
> It is desirable to represent pictorially on the walls of the classroom everything that is treated of in the class, by putting up either precepts and rules or pictures and diagrams illustrative of the subject taught.

By such means, "the senses (hearing, and seeing), the tongue and the hand; or the senses, the memory, the imagination, and the understanding," may be "daily exercised in conjunction." Words and things, style and logical thought would be correlated[39]

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[37] Laurie, S. S., *op. cit.*, p. 204.

[38] Keatinge, M. W., *op. cit.*, p. 291.

[39] *Ibid.*, p. 356.

> Our acquaintance with the objective world and with language, that is to say, our knowledge of facts and our power to express them, may progress side by side.

In all this, Comenius was endeavoring to formulate a functional pedagogy that would replace the training of the faculties in isolation. The relation of the senses and reason may be seen in the following interesting figure of speech: [40]

> Our mind is in constant activity, like a continually running mill-stone, and is supplied by its servants, the external senses, with material from every side. But unless the chief inspector, the reason, be continually on the watch, worthless material is supplied, such as chaff, straw, or sand, instead of corn or wheat.

This principle of integration led Comenius to declare that all training gave form, not only to the materials, but at the same time to the entire selfhood of the pupil.

From the known to the unknown. It is hard nowadays to realize how much children at that time had to learn by rote without any understanding of the meaning of what they memorized. This fault was particularly true of the instruction in Latin. The little fellows were made to learn words and long passages which were just so many nonsense syllables to them. It was not until the 17th century that men like Ratich and Comenius pointed out the supreme folly of this procedure. The latter declared it was wrong "to teach the unknown through the medium of that which is equally unknown."

Avoiding confusion in the child's mind. Comenius was afraid that the methods pursued were producing confusion in the child's mental growth and, to avoid this danger, set forth a number of principles. One, and only one, text is to be used in a subject. Many texts for young children lead not so much to balanced judgment as to distraction of mind. One, and only one, teacher is to be in charge of a class—not one for each subject, as in many schools today. The whole class is to have the same exercises. All languages are to be taught by the same method.

Textbooks and other writings. As a writer of books and pamphlets, Comenius was indefatigable in his efforts and quite

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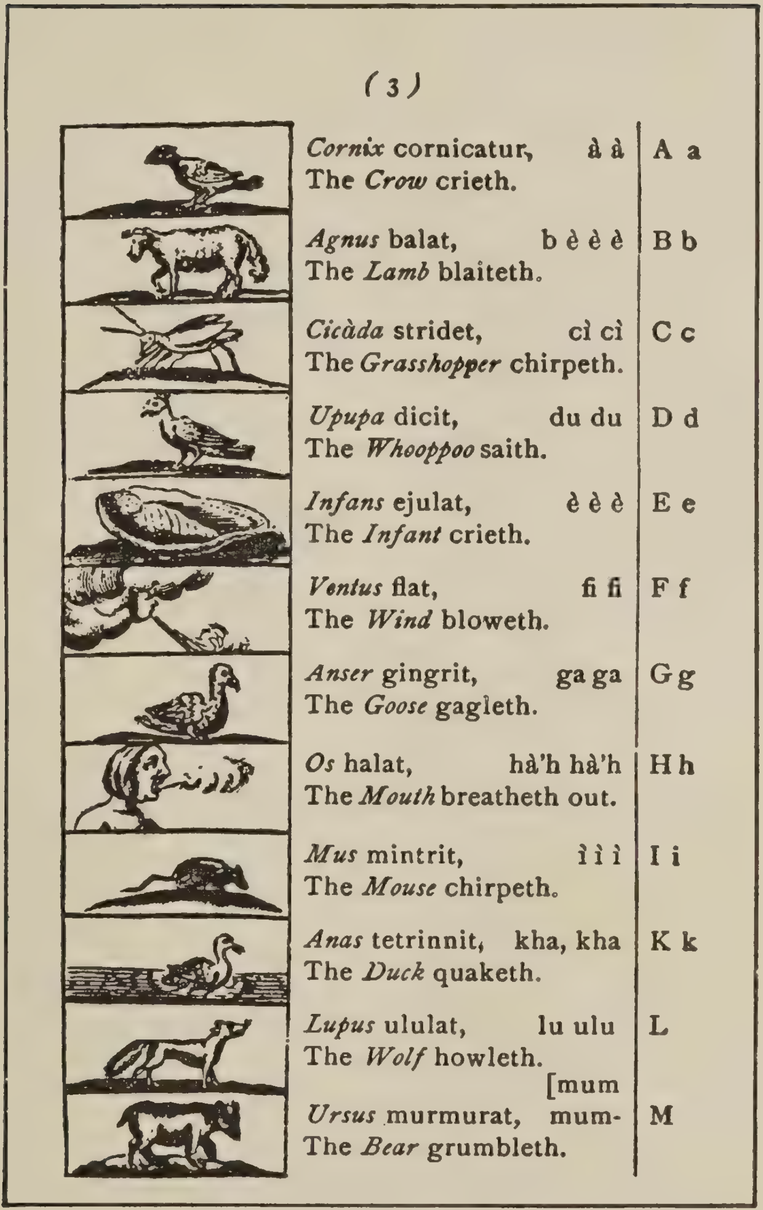
[40] *Ibid.*, p. 336.



(3)

Cornix cornicatur, The *Crow* crieth.	à à	A a
Agnus balat, The *Lamb* blaiteth.	b è è è	B b
Cicàda stridet, The *Grasshopper* chirpeth.	cì cì	C c
Upupa dicit, The *Whooppoo* saith.	du du	D d
Infans ejulat, The *Infant* crieth.	è è è	E e
Ventus flat, The *Wind* bloweth.	fi fi	F f
Anser gingrit, The *Goose* gagleth.	ga ga	G g
Os halat, The *Mouth* breatheth out.	hà'h hà'h	H h
Mus mintrit, The *Mouse* chirpeth.	ì ì ì	I i
Anas tetrinnit, The *Duck* quaketh.	kha, kha	K k
Lupus ululat, The *Wolf* howleth.	lu ulu	L
Ursus murmurat, The *Bear* grumbleth.	mum- [mum	M

Orbis Pictus, Page 3.

versatile in subject matter. His works may be classified under three heads: (1) those which treat of educational principles; (2) textbooks and other helps for the schoolroom; and (3) miscellaneous works. The third class is chiefly along religious lines, such as sermons, church histories, works of devotion, commentaries, hymn books, catechisms, translations, and works of prophecy. These productions reveal exalted devoutness of motive, but some of them indicate grave mental aberrations, induced probably by belief in the revelations and prophecies of fanatic and visionary religionists who artfully duped him.

Comenius' most important contribution to educational thought was *The Great Didactic* (*Didactica Magna*). It was originally written in the Czech language, and later translated into Latin and published in Amsterdam in 1657. The other work of chief merit was *The School of Infancy* (*Schola Infantiae*). *The Great Didactic* is a most remarkable treasury of pedagogical wisdom; its complete title is: [41]

THE GREAT DIDACTIC

Setting forth
The Whole Art of Teaching all
Things to all Men

or

A certain Inducement to found such Schools in all the Parishes, Towns, and Villages of every Christian Kingdom, that the entire Youth of both Sexes,
None being excepted, shall,

Quickly, Pleasantly, Thoroughly

Become learned in the Sciences, pure in Morals,
Trained in Piety, and in this manner Instructed in all things necessary
for the present and for
the future life.

Let the main object of this, our *Didactic*, be as follows: To seek and to find a method of instruction, by which

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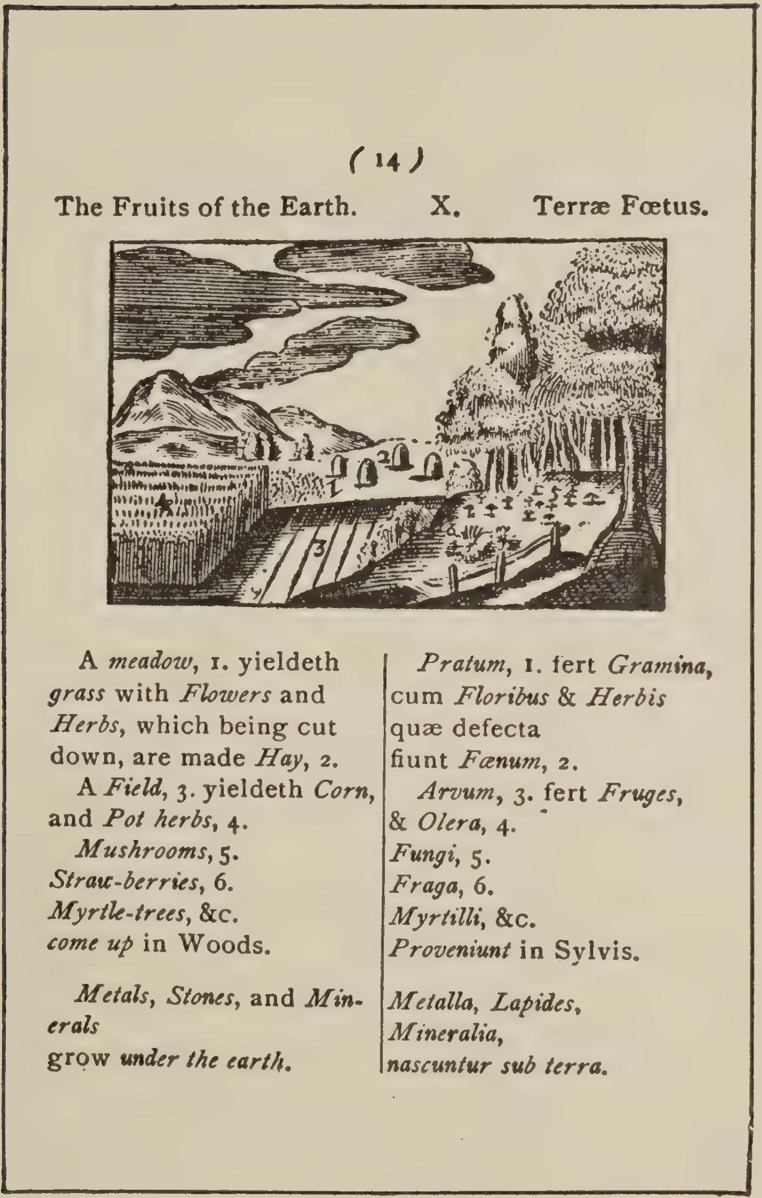
[41] *Ibid.*, pp. 156–157.



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The Fruits of the Earth. X. Terræ Fœtus.

A *meadow*, 1. yieldeth *grass* with *Flowers* and *Herbs*, which being cut down, are made *Hay*, 2.	*Pratum*, 1. fert *Gramina*, cum *Floribus* & *Herbis* quæ defecta fiunt *Fænum*, 2.
A *Field*, 3. yieldeth *Corn*, and *Pot herbs*, 4.	*Arvum*, 3. fert *Fruges*, & *Olera*, 4.
Mushrooms, 5.	*Fungi*, 5.
Straw-berries, 6.	*Fraga*, 6.
Myrtle-trees, &c.	*Myrtilli*, &c.
come up in Woods.	*Proveniunt* in Sylvis.
Metals, *Stones*, and *Minerals* grow *under the earth.*	*Metalla, Lapides, Mineralia, nascuntur sub terra.*

Orbis Pictus, Page 14.

> teachers may teach less, but learners may learn more, by which schools may be the scene of less noise, aversion, and useless labour, but of more leisure, enjoyment, and solid progress; and through which the Christian community may have less darkness, perplexity, and dissension, but on the other hand, more light, orderliness, peace, and rest.

Comenius diligently searched every author, and quizzed every educational reformer, for fruitful ideas. But not only did he borrow from other men; he was, moreover, a restless observer and a creative thinker himself. He had a profound interest in nature in all its varied operations. Most important of all, he caught the genetic point of view, and thus anticipated the ideas of the later centuries. Down to his day no one had been so observant of the growth, ideas, activities, and developments of child life. His shrewd insight repeatedly amazes the reader. All of his principles find analogy in the processes of nature, such as the growth of trees, plants, and human bodies; and then again, in the operations of printers, builders, watchmakers, and artists.

The School of Infancy is a remarkable discussion of the education of children from birth to six years of age. In this work, Comenius goes into quite minute details.

Strange to say, these truly wonderful treatises on education mouldered unknown in the dust for two centuries. As Keatinge says: [42] "For all the result they might as well have perished in the flames at Lissa." The textbooks, on the contrary, "frequently reprinted, were thumbed for years to come by boys in every corner of Europe."

Comenius' schoolbook productions included several introductory textbooks in Latin, lexicons, grammars, and readers. The age demanded a new method by which young boys could learn the Latin language in shorter time and with greater ease. Ratich and many others had attempted to meet this universal need, but with more boasting than genuine success. Comenius was aware of these attempts and, in 1631, printed the *Gate of Tongues Unlocked* (*Janua Linguarum Reserata*), in which he had skillfully arranged all the principal words of the Latin language in twelve hundred sentences. Each important word was used only once. Because this work did not

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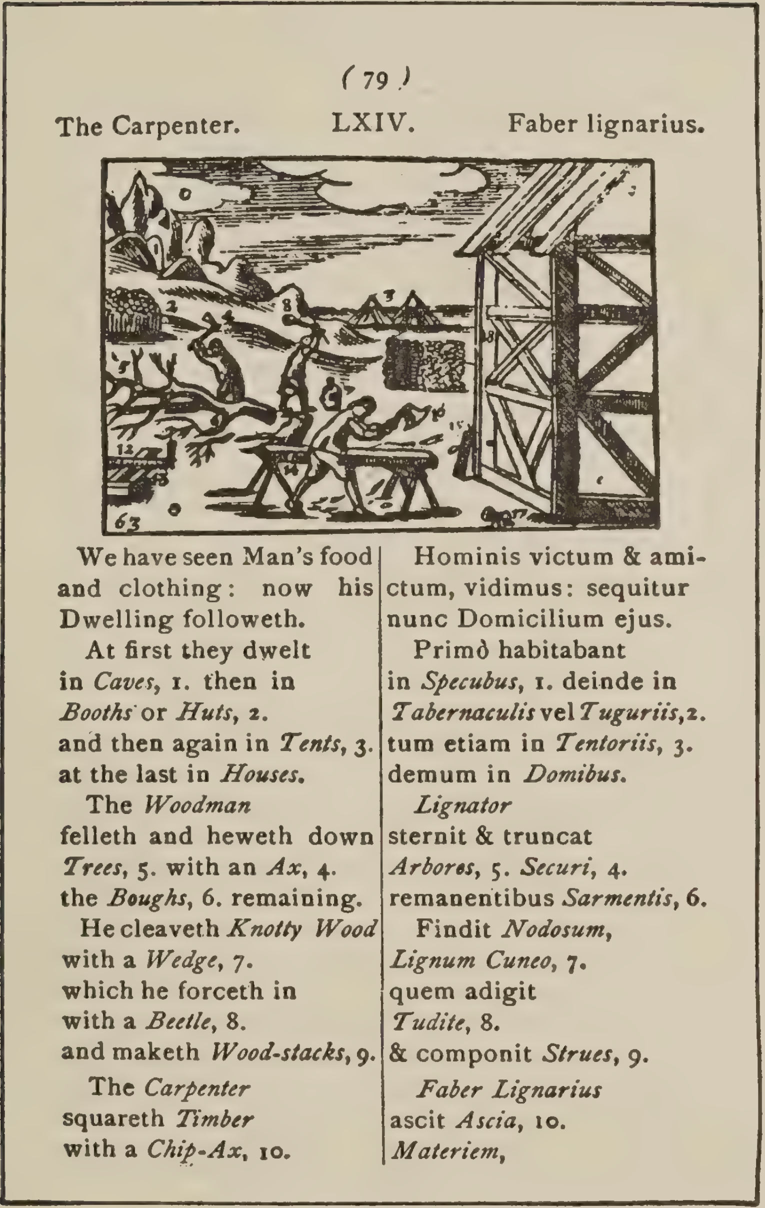
[42] *Ibid.*, p. 98.



(79)

The Carpenter. LXIV. Faber lignarius.

We have seen Man's food and clothing: now his Dwelling followeth.	Hominis victum & amictum, vidimus: sequitur nunc Domicilium ejus.
At first they dwelt	Primò habitabant
in *Caves*, 1. then in	in *Specubus*, 1. deinde in
Booths or *Huts*, 2.	*Tabernaculis* vel *Tuguriis*, 2.
and then again in *Tents*, 3.	tum etiam in *Tentoriis*, 3.
at the last in *Houses*.	demum in *Domibus*.
The *Woodman*	*Lignator*
felleth and heweth down	sternit & truncat
Trees, 5. with an *Ax*, 4.	*Arbores*, 5. *Securi*, 4.
the *Boughs*, 6. remaining.	remanentibus *Sarmentis*, 6.
He cleaveth *Knotty Wood*	Findit *Nodosum*,
with a *Wedge*, 7.	*Lignum Cuneo*, 7.
which he forceth in	quem adigit
with a *Beetle*, 8.	*Tudite*, 8.
and maketh *Wood-stacks*, 9.	& componit *Strues*, 9.
The *Carpenter*	*Faber Lignarius*
squareth *Timber*	ascit *Ascia*, 10.
with a *Chip-Ax*, 10.	*Materiem*,

Orbis Pictus, Page 79.

suit him, several years later he brought out the *Vestibule to the Gate of Tongues Unlocked* (*Januae Linguarum Reseratae Vestibulum*). In this work he aimed to simplify and grade the instruction in Latin: to teach words through things, and then to teach things through words. This text had marvelous success and was translated into many languages; but, successful as it proved to be, he made a final attempt to secure a more scientific introduction to the Latin tongue. This work was his celebrated *Orbis Pictus*, or *World in Pictures*.

The special interest attaching to this work lies in the fact that Comenius, having worked out a concise Latin vocabulary, used pictures together with the words to impress the memory of the child and to give him rapidly a knowledge of Latin. Such a use of pictures in textbooks and other works was not new, as some have thought. It had, moreover, been urged by such men as Andreä and Lubinus. However, as a psychological instrument for learning Latin words more easily, it was a striking innovation.

The success and failure of Comenius. Two authorities have summed up the final effect of the ideas and works of Comenius, and both of them are highly sympathetic in their judgments. Keatinge, an English scholar, says: [43]

> We now approach the question, "What was the effect of the personality and of the theoretic writings of Comenius on the generation that immediately succeeded him, and on the following century?" The answer is somewhat surprising. The man whom we unhesitatingly affirm to be the broadest-minded, the most far-seeing, the most comprehensive, and withal the most practical of all the writers who have put pen to paper on the subject of education, the man whose theories have been put into practice in every school that is conducted on rational principles, who embodies the materialistic tendencies of our "modern side" instructors, while avoiding the narrowness of their reforming zeal, who lays stress on the spiritual aspect of true education while he realizes the necessity of equipping his pupils for the rude struggle with nature and with fellowmen—Comenius, we say, the prince of schoolmasters, produced practically no effect on the school organization and educational development of the following century.

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[43] *Ibid.*, p. 98.

Laurie, a Scotch educator, states: [44]

> When we consider, then, that Comenius first formally and fully developed educational method, that he introduced important reforms into the teaching of languages, that he introduced into the schools the study of Nature, that he advocated with intelligence, and not on purely sentimental grounds, a milder discipline, we are justified in assigning to him a high, if not the highest, place among modern educational writers. The voluminousness of his treatises, their prolixity, their repetitions and their defects of style, have all operated to prevent men studying him.

From these statements it is clear that Comenius furnishes the educational historian a strange enigma. His textbooks, which embodied his principles of method, attained extraordinary popularity. His curricular recommendations, though somewhat extravagant and grandiose, were nevertheless in harmony with the new trend of reform in subject matter. But his general scheme of reform met only with the coldest attention, except for the interest of a few ardent admirers, and was speedily consigned to oblivion.

What were the reasons for this striking success on the one hand, and the stark failure on the other? To say that Comenius was ahead of his age, as many do, is to beg the question. Most writers are content to blame the horrors of the Thirty Years' War. To be sure, this tragedy, which practically wiped out civilization in large areas of Germany, played its part; but it must be remembered that wars are invariably followed by changes in education, and that changes actually took place after this war. Keatinge offers a different and more plausible explanation. Comenius was subject to a fanatical belief in prophetic revelations. His credulity was childish, and he permitted himself to be duped by several utterly irresponsible creatures. He not only accepted as divinely revealed their prophecies but even induced his coreligionists to act upon them. Then, Keatinge adds: [45]

> Imagine the effect produced, when eight months after Comenius' death, Drabik formally retracted all the proph-

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[44] Laurie, S. S., *op. cit.*, p. 224.

[45] Keatinge, M. W., *op. cit.*, pp. 98–99.

> ecies and went over to the Roman Catholic faith. The reaction was terrible.

Undoubtedly this reaction was discrediting. But we have not yet penetrated to the chief reason for the failure to appreciate Comenius' noble conceptions of education. He represented a despised sect, persecuted and possessing no land or country. For a long time this sect resisted all government authority, practiced communism, and was strongly opposed to aristocracy. In fact, for many years they declined to admit to their fellowship any of the nobility until they renounced their titles and power. Comenius' program of education was extremely democratic and urged the wiping out of class distinctions. In an age that believed in the divine right of kings and gave them autocratic power, such a school system was anathema. This is sufficient explanation to account for the consigning of his ideas to the grave.

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CHAPTER IX

THE NEW CHRISTIAN EDUCATION AND REALISM

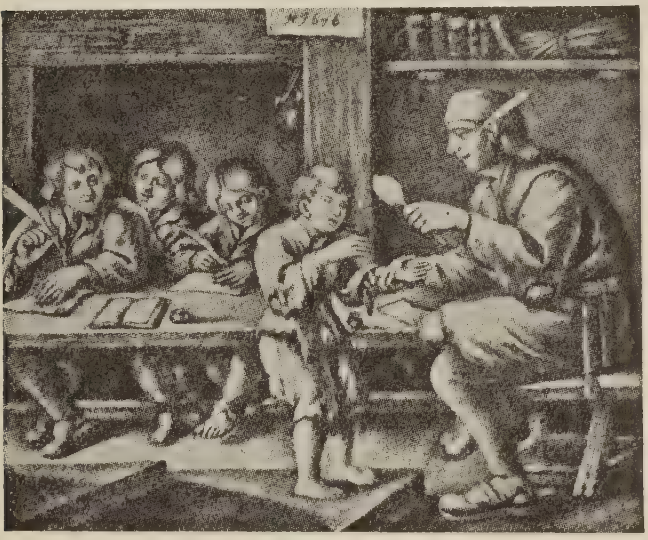
1. The Integration of Christian Education and Realism

Renewed interest in the reform of education was manifested on the part of religious leaders throughout the 17th century. The Reformed Church took action at the Synod of Dort, in 1618; the Huguenots established a number of academies in France; and the Puritans did the same in England. Meanwhile, through the influence of Ratich, Kromayer, Evenius, Andreä, Hartlib, Comenius, and many others, an effort was being made to integrate religious education and realistic knowledge and method. The most important forward movement was initiated by Duke Ernst, Prince of Gotha. In Germany, also, the Pietists arose toward the end of the century, and Francke focused their doctrines upon education. About the same time the Society for Promoting Christian Knowledge began in London as an international Christian missionary movement.

Unfortunately, every effort toward progress was hindered and enfeebled by the continuance of religious bitterness and the wars to which this led; especially was this true of the Thirty Years' War on the Continent and the Civil War in England.

The Synod of Dort. In 1618–1619 there was held at Dordrecht, Holland, a general council representing all the adherents of the Reformed Church. The deep interest that Calvinists had in the religious education of their children found expression in this body. The plan comprehended religious instruction in the home and church, and the promotion of schools by the civil authorities. Particularly did the council urge the extension of schools to the villages and the country. But the chief concern of the Synod, as shown in the following statement from the resolution adopted by the body, was the promotion of religious instruction: [1]

> In order that the Christain youth may be diligently instructed in the principles of religion, and be trained in piety, three modes of catechising should be employed. I. *In the house, by parents.* II. *In the schools, by schoolmasters.* III. *In the churches, by ministers, elders and catechists especially appointed for the purpose.* That these may diligently employ their trust, the Christian magistrates shall be requested to promote, by their authority, so sacred and necessary a work; and all who have the oversight of churches and schools shall be required to pay special attention to this matter.
>
> I. The office of parents is diligently to instruct their children and their whole household in the principles of the Christian religion, in a manner adapted to their respective capacities; earnestly and carefully to admonish them to the cultivation of true piety; to engage their punctual attendance on family worship, and take them with them to the hearing of the Word of God. . . . Parents who profess re-



A DUTCH SCHOOL, 1676.

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[1] Dunshee, Henry W., *History of the School of the Collegiate Reformed Dutch Church*, pp. 3–4. New York, Aldine Press, 1883.

> ligion, and are negligent in this work, shall be faithfully admonished by the ministers; and, if the case requires it, they shall be censured by the Consistory, that they may be brought to the discharge of their duty.
>
> II. Schools, in which the young shall be properly instructed in the principles of Christian doctrine, shall be instituted not only in cities, but also in towns and country places where heretofore none have existed. The Christian magistracy shall be requested that well-qualified persons may be employed and enabled to devote themselves to the service; and especially that the children of the poor may be gratuitously instructed, and not be excluded from the benefit of the schools. In this office none shall be employed but such as are members of the Reformed Church, having certificates of an upright faith and pious life, and of being well versed in the truths of the Catechism. They are to sign a document, professing their belief in the Confession of Faith and the Heidelberg Catechism, and promising that they will give catechetical instruction to the youth in the principles of Christian truth according to the same. The schoolmasters shall instruct their scholars according to their age and capacity, at least two days in the week, not only by causing them to commit to memory, but also by instilling into their minds an acquaintance with the truths of the Catechism.
>
> III. In order that due knowledge may be obtained of the diligence of the schoolmasters, and the improvement of the youth, it shall be the duty of the ministers, with an elder, and, if necessary, with a magistrate, to visit all the schools, private as well as public, frequently, in order to excite the teachers to earnest diligence, to encourage and counsel them in the duty of catechising, and to furnish an example by questioning them, addressing them in a friendly and affectionate manner, and exciting them to early piety and diligence. If any of the schoolmasters should be found neglectful or perverse, they shall be earnestly admonished by the ministers, and, if necessary, by the Consistory, in relation to their office.

Weimar reform. The most important single effort at educational reform just after the beginning of the Thirty Years' War took place in Weimar, a principality in central Germany. The initiative was taken by the Duchess Dorothea Maria, who had been profoundly interested in educational reform from the time she learned Latin from Ratich. At her request the court preacher, Kromayer, drew up a new school order for the schools of the duchy in 1619. He was well acquainted with the principles of Ratich and had written a number of textbooks in accordance with the new method. Among other requirements, this school order obliged pastors and schoolmasters to keep a "careful list" of all boys and girls from the sixth year to the twelfth; school attendance was made compulsory "through the power of the civil authorities." This provision is notable, for not only was it the first compulsory education law promulgated in a German state, but an effort was actually made to put it into effect. Another important point was that, in accordance with the trend of events, children were taught the vernacular before they learned the Latin language.

Devastations of the Thirty Years' War. It has been asserted that religious wars are the most ruthless and savage of all. Certainly the Thirty Years' War, between Catholics and Protestants in northern Europe, may well be cited as an illustration of this contention. Large areas of fertile soil became wilderness. The entire country was more or less devastated, much of it was depopulated, while the inhabitants of Germany decreased one-half. In many places the people were reduced to savagery. In the villages there was often not a wagon nor a draft animal to be seen; many a peasant was forced to harness himself or his wife and dog to the plow. A number of the free cities never recovered their ruined trade and industries. The Moravians who inhabited the central theater of the conflict were exiled and well-nigh exterminated.

Religion, morals, and the arts of civilization were practically forgotten. The bestiality and licentiousness of the soldiers were incredible. Pastors and teachers had nothing tc sustain them at their labors and largely ceased their ministrations. The people lapsed into barbarity, ignorance, superstition, and crime. Except in the largest centers of population, every trace of the schools passed away. Church and school buildings often were requisitioned as hospitals or barracks for soldiers, or even as stables for their horses. It was under such horrible circumstances that the reform of education was attempted by several of the princes of Germany even before the termination of the conflict.

Duke Ernst and school reform in Gotha. By far the most epochal action for the advancement of education in the early part of the 17th century was taken by Duke Ernst, universally called "the Pious." He was known as the prince among the pedagogues, and the pedagogue among the princes. Generally credited with the founding of the German school system, Duke Ernst came by his enthusiasm for education honestly; his mother was the Duchess Dorothea Maria of Weimar, who had called Ratich to assist in the education of her sons and who had later employed Kromayer to reform the schools of the duchy. The reforms instituted by Duke Ernst, as well as those effected by his mother, had this significant feature: they definitely marked the passing of the initiative in school reforms from the church authorities to the civil power. Not that there was any lack of coöperation between church and state, but henceforth the leadership rested primarily with the civil magistracy.

Duke Ernst took over the small dukedom of Gotha in 1640. The condition of the territory at the time was truly pitiable. Many churches and schools were in ruins or were used by the soldiers as hospitals and stables. Towns and villages were impoverished and depopulated, and the remaining inhabitants had largely reverted to savagery. In most communities, religious instruction had ceased. Duke Ernst began a general survey of conditions in all churches and schools, but he did not wait until the completion of this survey to initiate reform. He issued an imperative order to the civil officers to look after the discipline of children, and to the pastors to give their attention to religious instruction, particularly of pre-school children.

Duke Ernst's chief reforms had to do with the schools. In most villages either no schools existed or they had been destroyed by the ravages of war. He first sought to improve the condition of the teachers: a minimum income was assured them, and a knowledge of the elements of learning and good character were required before appointment. His next step in carrying out his far-reaching program was to issue a school law. In this he set forth in quite elaborate detail the organization and aims of the schools; methods of instruction; means of education and discipline; duties of children, parents, teachers, and supervisors; in short, the law considered everything that was essential for the establishment and improvement of a school system. The new code required that schools should be established everywhere, in the villages as well as in the towns. This was, in fact, the first time in any German state, that an effort was made to establish vernacular elementary schools for all children.

School organization. Duke Ernst called to his assistance Andreas Reyher, a thoroughgoing schoolman, the rector of the Gotha gymnasium. Reyher was well acquainted with the principles of Ratich and Comenius, and was himself a man of some originality. His first task was to write a new plan of school organization, which was then amended by Duke Ernst. It was adopted in 1642, but was later subjected to numerous revisions and entitled *School-Method (Schulmethodus).* Among the many and comprehensive provisions the following may be noted as the most progressive:

(1) *Schoolmasters* must live respectable lives, and observe punctiliously the rules laid down in the school ordinance; otherwise they will be summarily dismissed. Inhumane punishments will not be tolerated.

(2) The *school term* shall continue throughout the entire year, except that, for the four weeks of harvest time, full weekly attendance is not necessary.

(3) *Compulsory attendance* is now required. Every year after the harvest all children who have passed their fifth year of life shall report at school, and shall attend until their twelfth year. On Sundays and holidays they shall attend church. The daily lessons shall be three hours in the morning, and three in the afternoon in the villages. Saturday afternoon is free; also, Wednesday afternoon is free in the towns.

(4) The daily schedule of lessons is laid down as follows: religion and reading, in the morning; writing, singing, and reckoning, in the afternoon. In the villages the children are grouped into two classes for purposes of instruction. In the lower class, the alphabet and syllables are learned; in the other, reading, writing, singing, reckoning, catechism, psalms, proverbs, and the Gospels.

Reyher prepared books for each class in the various subjects, in which, also, detailed directions were given the teachers as to how each subject was to be taught.

Realistic studies. For the first time in the German schools, realistic studies received considerable attention, for Duke Ernst and Reyher tracked closely the plans of Comenius. A special text on *The Things of Nature* was written with the following divisions: (1) Of the things of nature; (2) Of some useful sciences; (3) Of religious and civil arrangements; and (4) Of domestic regulations. Directions in teaching these branches were likewise given. It was required that every school be provided with apparatus: for example, a rule, a circle, a plummet, two or more balls of twine, a compass, and six weights. The children were given instruction about climate, natural phenomena, geology, botany, and natural history, and about man's body and soul. The practical affairs of life were kept constantly in view.

In the directions to the teachers, stress was laid upon direct sense perception of things, models, or pictures, and on the stimulation of interest through all possible self-activity and observation of nature and life. Geometry and political affairs were taught to boys only. Parents were required to train their sons in some honorable handicraft or in farming; and their daughters, in sewing, spinning, housekeeping, and similar services.

Supervision. The supervision of the country and village schools lay in the hands of the clergy. It was their duty to keep the school roll, and to correct the weaknesses of the teachers, to admonish and warn them when necessary, and to make reports to the superintendent. Likewise the superintendent had to admonish and to warn parents, and, in case they did not observe the school regulations regarding their children, to apply punishment. In the towns, the civil authorities and judges had the oversight of the schools. The church superintendent and the consistorium, at the head of the entire system, were responsible for the schools but were subject to the approval of Duke Ernst. An annual examination of each school was instituted for the inspection of the work and the promotion of the pupils. Duke Ernst in company with his court preacher often visited the schools in person and observed the attitude of those in charge.

Summary. The following points of progress in the Gotha school system are especially noteworthy: (1) Compulsory attendance; (2) control of the period of attendance; (3) extension of the school over the entire year; (4) supervision by the state and in the interests of the state; (5) humane discipline; (6) reform of instruction according to the new principles of Ratich and Comenius; (7) introduction of realistic instruction; and (8) insistence upon the class system.

Duke Ernst not only improved the condition of the teachers, but also promoted the construction of buildings and founded some twenty new schools. His efforts put new life into the little state of Gotha and made it one of the most prosperous and progressive. His reforms had a far-reaching influence and marked a new epoch in German education.

2. The Progress of Schools in England and Scotland

Trends in seventeenth-century England. As the 17th century began, Elizabeth was on the throne of England and the power of the Crown was all but absolute. The second quarter of the century witnessed the struggle between the Parliamentary party and Royalists—a struggle which culminated in civil war, the execution of Charles I, the expulsion of the Stuarts, and the establishment of the Commonwealth. In 1660, the monarchy was restored and Charles II came to the throne. The struggle continued between the champions of a strong monarch and those of a strong parliament, and was ended by the Revolution of 1688, which drove the Stuarts finally from England, determined that the Established Church remain Protestant, and fixed the representative character of the British Government.

Some of the greatest monuments of English literature were produced in the 17th century. Seventeen of Shakespeare's plays appeared between 1600 and 1613. Milton's work was done around the middle of the century. As the end of the century approached, Locke's career was closing, Sir Isaac Newton was at the summit of his powers, and Defoe was launched as a writer. No literary event of the century is, however, of more interest, than the production and publication, in 1611, of the King James translation of the Bible. In addition to the great literary lights already mentioned, Britain numbered among her scholars: Gilbert, Harvey, Petty, and Boyle. England assumed first place in the intellectual life of Europe during that century.

Four distinct trends characterized educational developments in 17th-century England: (1) A trend toward the teaching of "real" subjects in the schools; (2) a steady progress toward the recognition of English as a "learned" language; (3) a movement toward popular instruction and the general diffusion of literacy; and (4) a trend toward the toleration of educational efforts not approved by the national church.

I. POLITICAL STRUGGLES AND SCHOOL REFORM

Repressive policy of the Stuarts. It has already been stated that Elizabeth instituted a policy of licensing schoolmasters. By a statute of 1603 the bishop's license was required as a prerequisite for teaching; hence, the freedom of all men to teach, as asserted in 1410 by the court of common pleas, was by this statute denied.[2] This policy of complete state control of the beliefs and ideas of men was vigorously resisted; the struggle between the party of a strong central government and the party which stood for a responsible government, the party of Parliament, at length led to the Civil War. As is well known, the Parliamentarians, who for the most part were Puritans in religion, defeated the Royalists, Charles I was put to death, and the Commonwealth was established.

The Commonwealth and school reform. The dominant party was committed to a program of complete reformation, or purification, of both church and state. Commonwealth theorists believed that these reforms would have to be preceded by a reformation of the schools. It was proposed, in 1641, to appoint a commission to reform the existing system of English education, and to invite John Amos Comenius to come to England and participate in the movement. The disturbed condition of the times prevented the prosecution of these plans. Parliament, in 1649, passed an act providing for the support and regulation of the schools in Wales. This Parliament passed, also, a measure to provide, out of national revenues, for the support of churches and schools.[3] Whether, as has been suggested, the republican reformers were moving too rapidly, or whether their schemes were defeated by the disturbed condition of the times cannot be determined. It is evident, however, that these acts did not lead at once to a national system of education, but it is of interest that, in 1647, the colony of Massachusetts, where Puritan principles dominated, issued an ordinance requiring schools to be established and maintained in all the more populous towns.

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[2] De Montmorency, J. E. G., *The Progress of Education in England,* pp. 30, 44, and 45. London, Knight and Company, 1904.

[3] Consult De Montmorency, J. E. G., *State Intervention in English Education,* pp. 61–164. See especially pp. 100–104. Cambridge, University Press, 1902.

Educational progress in Scotland. In Scotland the party of representative government put forth unremitting efforts to secure schools. It will be recalled that the Scotch Kirk represented the Scotch people, and that this organization, from the days of Knox, had stood for popular education. In 1639, the General Assembly, the highest legislative and judicial body of the Kirk, petitioned the Scotch Parliament to have schools established. In 1641, the General Assembly sent to Parliament an overture containing the following passage: [4]

> Every parish would have a reader and a school, wherein children are to be bred in reading, writing, and the grounds of religion, according to the laudable acts both of Kirk and Parliament, made before. And where grammar schools may be had, as in burghs and other considerable places, . . . that they may be erected and held hand to [maintained].

This overture seems to have produced no immediate effect. In 1646, the General Assembly petitioned again, and Parliament promptly passed an "Act for founding schools in every parish." This act required that a school be founded and a schoolmaster appointed in every parish. The schools were to be supported by levies against property, and were to be under the oversight of the Presbyteries. Scarcely had this legislation been placed upon the statute books when Scotland became involved in the quarrel which led to the war with Cromwell, and the law was never put into effect. After the Restoration, all legislation enacted between 1633 and 1660 was annulled. Political domination of the church was imposed upon the Scotch. Every minister, schoolmaster, and private tutor was required to have license from an Episcopal bishop.

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[4] *Ibid.*, quoted on p. 119. The spelling and punctuation have been modernized.

Conformity acts of the Restoration government. The return of the Stuarts to the throne of Great Britain was quickly followed by legislation calculated to establish complete governmental control of education and religion: a control exercised through the Church of England. The repressive Act of Uniformity and the Act of 1665 aimed, among other things, to prevent dissenters from teaching in any school, public or private. For the time these acts almost destroyed the English school system, but dissenters resisted the enforcement of the laws. By a long series of suits at law, they won the right to teach in certain elementary schools and private schools. Their exclusion from the parish schools and the endowed public schools led to the founding of a great number of charity schools and dissenting academies, which will be discussed later.

Revolution of 1688. The expulsion of the Stuarts in 1688 determined that the Church of England would remain Protestant, and that the government would pursue an increasingly tolerant attitude toward dissenters. The indirect effects of the Revolution upon education were, therefore, of great significance.

In Scotland, the Kirk supported the Revolution and its foes supported the Stuarts. With the victory of the Whigs, the Presbyterian system was established by law. When, in 1696, the Scotch Parliament enacted school legislation similar to that of 1646, the people of Scotland won their long struggle for a national system of schools.

II. Textbooks and Educational Theorists

Edmund Coote. One of the most famous textbooks of the 17th century was *The English School-Master*, a little book by Edmund Coote, which appeared in 1596. This book was one of the earliest English spellers. It contains an alphabet; a catechism and other religious materials; copies for writing; two pages devoted to arithmetic; and about fifty pages of word lists, including twenty pages of difficult words with explanations. The text professes to help pupils to learn, and teachers to teach, the English language. The book was widely used and frequently reprinted, the edition of 1692 being listed as the forty-seventh. Both Brinsley and Hoole commended it.

John Brinsley. A Puritan schoolmaster and writer on education, John Brinsley flourished during the first quarter of the 17th century. His *A Consolation for our Grammar Schooles* appeared in 1622.[5] It urges the reading of Brinsley's most important book, *Ludus Literarius; or The Grammar Schoole*, which had been published ten years earlier. The *Ludus Literarius* reflects the influence of Ascham, and describes in great detail the author's method of teaching and the practices of grammar schools of his day.

Brinsley adopted the literary device of a dialogue between two schoolmasters: Spoudeus, whose name may be translated "Mr. Worried"; and Philoponus, "Mr. Love-his-work." The two men had been friends at the university, and Spoudeus, discouraged by the difficulties encountered in conducting a "poor country school," had come to visit Philoponus, who, he had learned, had met with no small success in his search "to find out the most plaine, easie, and sure waies of teaching." Philoponus owned that he had sought "the best waies of teaching, . . . by inquiring, conferring and practicing constantly all the most likely courses" which he could invent or of which he could hear. He asserted that, since he had undertaken to study and to improve his method of teaching, he had found great satisfaction in his work. The curriculum discussed in the book is the narrow one of the typical 17th-century Latin grammar school.

The key to Brinsley's reform is to be found in his adaptation of Ascham's method of double translation in the teaching of Latin and English. He proposed to use, in teaching the languages, translations of standard Latin works in which the order of words was that of correct everyday use, not that of the rhetoricians. The English translation was to be read

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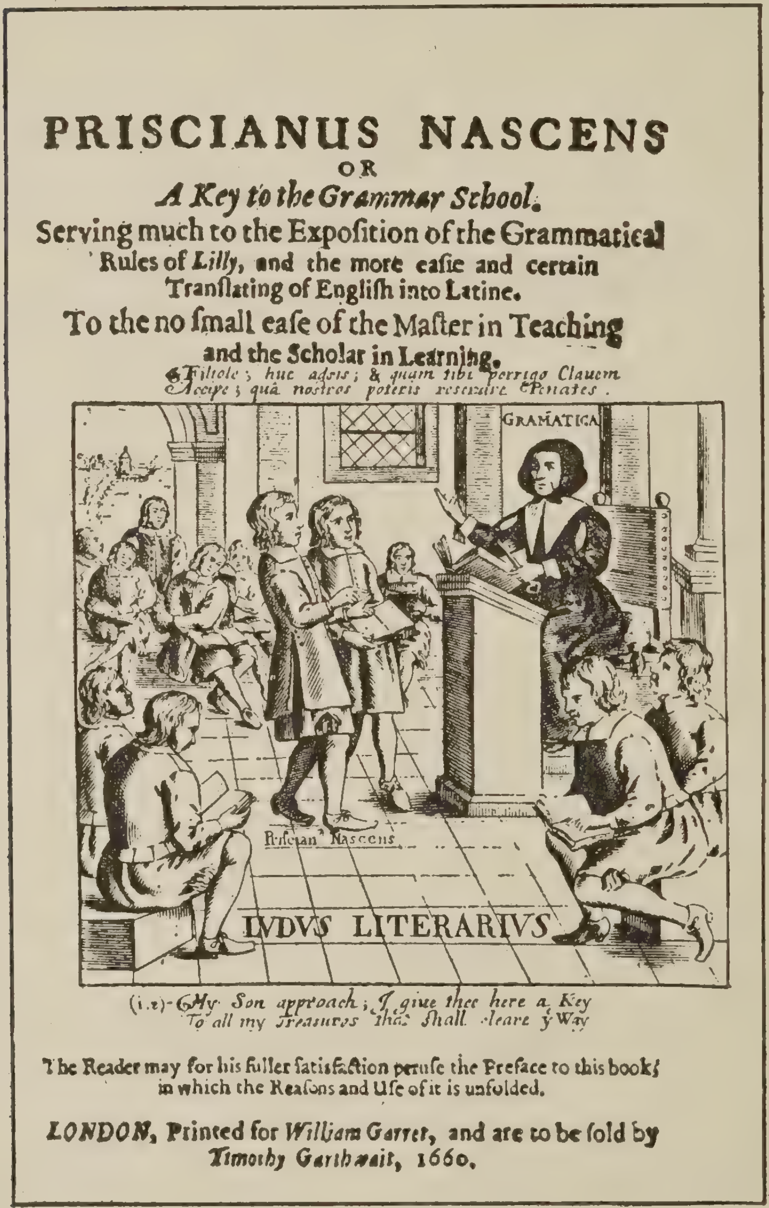
[5] The full title of the book is: *A Consolation for our Grammar Schooles: or a faithful and most comfortable incouragement for laying a sure foundation of all good learning in our Schooles, and for prosperous building thereon. More especially for all those of the inferiour sort, and all ruder countries and places, namely for Ireland, Wales, Virginia with the Summer Islands, and for their most speedie attaining of our English tongue by the same labour, that all may speak one and the same language. And withall, for the helping of all such as are desirous speedily to recover that which they had formerly got in the Grammar Schooles, and to proceed aright therein, for the perpetual benefit of these our Nations and of the Churches of Christ.*



PRISCIANUS NASCENS
OR
A Key to the Grammar School.
Serving much to the Expoſition of the Grammatical
Rules of *Lilly*, and the more eaſie and certain
Tranſlating of Engliſh into Latine.
To the no ſmall eaſe of the Maſter in Teaching
and the Scholar in Learning.

Filiole ; huc adsis ; & quam tibi porrigo Clauem
Accipe ; quâ nostros poteris reserare Penates .

GRAMATICA
Priſcian^s Nascens
LVDVS LITERARIVS

(i.e)-My Son approach ; I giue thee here a Key
To all my Treasures that shall cleare yͤ Way

The Reader may for his fuller ſatisfaction peruſe the Preface to this book;
in which the Reaſons and Uſe of it is unfolded.

LONDON, Printed for *William Garret*, and are to be ſold by
Timothy Garthwait, 1660.

Title Page of a Grammar Textbook.

to the pupil, who was then to render it into correct Latin. The aim of language study was ready command of both Latin and one's own language. Grammar was to be studied, and thoroughness secured by correct repetition. Brinsley anticipated Pestalozzi in proposing that children be made familiar with the sounds of letters and words before they are taught to recognize them by sight.

Of pupils he wrote: [6]

> But that wee ever remember, that they are children, God's children, heirs of his Kingdome; wee are to nurture them only under him, to train them up for him, and for his Church; nor to correct nature but vice; to do all to make them men.

He denounced with great feeling any show of cruelty in schoolmasters. He taught that kindness and thoroughness in teaching would serve better than blows to secure good work. The work itself could, he said, be made interesting, and masters might stimulate effort by inducing their pupils to strive to excel each other. Let the school, he urged, be made "a place of play" for little children. The aim of education he stated in typical Puritan terms: [7]

> It much concerneth every parent, to see their children to have the best education and instruction, which is the chief patrimonie, and the greatest comfort and hope both of the Parents and Children, and also of their houses and posteritie. And this so soone as ever may bee, to fit them for some profitable imploiment for Church or Commonwealth.

The chief points of Brinsley's method may be summarized as follows: All study should be with understanding; avoid rote memory. That only which is useful should be studied, but everything should be done thoroughly. The school should be organized into classes just large enough to secure the maximum amount of class work for each pupil. Let masters

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[6] Quoted by McClelland, G. W., "John Brinsley and his Educational Treatises," in *Schelling Anniversary Papers*, p. 189. New York, Century, 1923.

[7] Brinsley, John, *Ludus Literarius*, p. 10. London, Constable and Company, Ltd., 1917.

"discourage none." Let pupils strive to excel each other, and so stimulate effort. Pupils should be examined often and with care. The best models should be set before pupils. Let master and pupils be always cheerful. Care should be exercised to keep good order. Rely upon thoroughness of work and gentleness on the part of the teacher, rather than upon repressive measures, to lead pupils to enjoy their work. School materials must be prepared with care. The master should see first that pupils always have an understanding of their work, and then proceed to illustrations.

Authorities claim that Brinsley's method was regularly followed in English grammar schools.[8] It is certain that he reflected the main trends in English pedagogical theory at the time.

The Commonwealth educationalists. During the period of the Commonwealth, the work of a group of writers on education marked a new departure in English pedagogical theory. Leaders of this group were Samuel Hartlib, John Dury, John Milton, and Sir William Petty. Associated with them was the great reformer John Amos Comenius. These men advocated universal literacy, the study of realistic subjects, scientific research, and industrial and engineering training. They reflect the influence of Sir Francis Bacon, the scientific discoveries of their age, and the current demand for reform. They paid special attention to classroom management, school organization, and methods of teaching. They regarded education as the great means of economic, social, and religious improvement; and believed that the schools should be the object of special solicitude on the part of the magistrates.

Samuel Hartlib. The central, though by no means the most able, figure among the Commonwealth educationalists was Samuel Hartlib (*c.* 1600–*c.* 1670), son of a Polish merchant. It was at Hartlib's request that Milton wrote his essay *Of Education*; to him, Sir William Petty addressed his essay on education; and he it was, more than any other man, who kept the ideas of Comenius before the English people. Hartlib brought out a number of pamphlets and essays. His translations from the works of Comenius, and his papers—

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[8] McClelland, G. W., *op. cit.*, p. 209.

Description of the Famous Kingdom of Macaria; and *Considerations tending to the Happy Accomplishment of England's Reformation in Church and State;* and *An Essay for the Advancement of Husbandry Learning; or propositions for erecting a Colledge of Husbandry*—are of special interest to the student of education. The *Description of Macaria* is Hartlib's contribution to utopian literature. In Macaria all goes well, and boys and girls are educated in arts, sciences, and manufacturing. In the *Considerations*, Hartlib argued that it is the duty of magistrates to see that schools are built, maintained, and supervised. Likewise, in the *Considerations*, he proposed an institution called the "Office of Publick Addresse." Both Petty and Dury wrote at length of this proposed office. The office was to maintain a registry of all artisans and working men. This agency was designed to help employers secure just the types of workers they needed, and to help deserving persons to secure employment; it was also to be of service in controlling the idle. The office was to be a clearinghouse of all sorts of information respecting commerce, industry, inventions, and science. It was to include, too, a sort of department of education which would encourage the founding of schools and improve methods of teaching. Hartlib proposed to advance agriculture and thereby to increase the prosperity of England by establishing a society or guild of youths who were to be apprenticed to study agriculture, forestry, and animal husbandry in their various branches.

John Milton. At the solicitation of his friend, Samuel Hartlib, John Milton (1608–1674) wrote a short paper entitled *Of Education.* This paper appeared in 1644, and had for its design the reformation of education. Milton's background for such a treatise is of interest. He was a Classicist, and one of the most erudite men of his day. He had been educated at St. Paul's School and at Cambridge, and had completed his education by making a tour of the Continent. He was, too, a Puritan and a member of the party of Parliament. His Puritan viewpoint combined with his classical education gave direction to his proposals for education. As a Parliamentarian, he was anxious to see education reformed, but he looked to antiquity for guidance in this reorganization.

Milton knew the ancient writers on education, but spoke with contempt of Comenius, saying: [9]

> To search out what many modern Januas and Didactics . . . have projected, my inclination leads me not.

The curriculum he advocated was almost wholly comprised of readings from the writers of classical antiquity. Though his course of study is humanistic, his educational ideal is distinctly Puritan. He wrote: [10]

> The end then of learning is to repair the ruins of our first parents by regaining to know God aright, and out of that knowledge to love him, to imitate him, to be like him, as we may the nearest by possessing our souls of true virtue, which being united to the heavenly grace of faith makes up the highest perfection.

This knowledge of God and of high and invisible things is to be gained by the study of visible and sensible things; in a word, Milton is a humanistic Realist as well as a Puritan. It will be obvious, however, that his realism is of a type very different from that of his scientific contemporaries. In this almost matchless sentence, Milton further defines the purpose of education: [11]

> I call, therefore, a complete and generous education, that which fits a man to perform justly, skillfully, and magnanimously all the offices, both private and public, of peace and war.

His views of childhood and of play are not nearly so enlightened as those of the Puritan schoolmaster Brinsley. He wished children to learn "to despise and scorn all their childish and ill-taught qualities," and "to delight in manly and liberal exercises." He proposed that boys read Cato, Varro, and Columella, and added: "If the language is difficult, so much the better, it is not a difficulty above their years."

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[9] Milton, John, *Of Education*, p. 97. London, Thomas Dring, 1673. The reference is to the *Janua Linguarum Reserata* and to the *Didactica Magna* of Comenius.

[10] *Ibid.*, pp. 97–98.

[11] *Ibid.*, p. 102.

As a member of the Parliamentary party, Milton was a severe critic of English grammar schools and universities. He proposed to supplant them with a system of classical academies—one, at least, of these institutions to be erected in each city. Latin and Greek were to be the languages of the academies, and the curriculum proposed was encyclopedic. The purpose of the academies was to promote the social, political, and economic welfare of the English people. Boys, for example, were to read about agriculture, to enable them to improve the land and the methods of farming in England. But studies in agriculture, as other studies, were to be confined almost wholly to the reading of the authors of ancient Greece and Rome. From the ancient classics, pupils were to learn education, agriculture, geography, history, physiology, politics, ethics, fortification, military science and tactics, law, medicine, and architecture. Youths were to drill at these academies, and to master riding, fencing, wrestling, sailing, and music. They were to make excursions to various points in England, to learn facts of use in national defense, in government, and in commerce. The grand tour, to be made by mature young men only, was to complete the education of the gentleman.

It is apparent that Milton's scheme held no promise of genuine reform. His plan does not even suggest that there was, in his day, a problem of the education of the poor and of plain and prosperous working people. He failed to recognize the advantages of using modern languages in higher studies, and consequently was out of touch with one of the most significant currents in 17th-century educational thought and practice. By advocating a realistic curriculum, made up almost wholly of the reading of authors dead fifteen hundred years or more, Milton revealed himself ignorant not only of the significance of what his scientific contemporaries were doing, but also of the forces that make for progress in science. He could see nothing to praise in the Oxford of Sir William Petty, John Locke, and Robert Boyle, or in the Cambridge which was soon to produce Sir Isaac Newton. In suggesting that the linguistic and the historical study of the ancient classics be made the foundation of education, Milton showed his lack of insight as to the real function and nature of critical scholarship. The critical study of antiquity is of great value to advanced students; but, as Milton's contemporaries were pointing out, a child's own language and the objects and activities of his everyday world are to him the proper gateway to learning.

Milton made two contributions of enormous importance to the progress of learning. First, although he did not advocate the teaching of English literature in schools, he promoted its study by writing masterpieces which are treasured intellectual possessions of western civilization. In the second place, by his powerful advocacy of religious toleration and of freedom of the press, he advanced the cause of intellectual freedom.

John Dury. Although known principally for his efforts to unite all the Protestants of Europe, the Puritan clergyman John Dury (1598–1680) was deeply interested in education. He left an account of a Jesuit college,[12] and some notes on education labeled "Mr. Dury's Exercitation of Schooling." At Hartlib's request he wrote a pamphlet, the *Reformed School,* which is his most important contribution to the literature of education. He answered criticisms of the *Reformed School* in a published paper, *A Supplement to the Reformed School.*

While Dury followed no one blindly, he was influenced by Bacon and Comenius. Education, he taught, should promote human welfare; its aim should be to produce in the learner (1) godliness, (2) health, (3) manners, and (4) "proficiencie in Learning."[13] Dury was a Sense-Realist. He advocated object teaching, joining the teaching of words with the teaching of things, and an encyclopedic curriculum. Teaching should be, at first, in the mother tongue, and foreign languages should be taught only as they are of value in transmitting and advancing knowledge. Training should be practical and should prepare individuals to serve the commonwealth, in either private or public positions. University professors should devote themselves to advancing knowledge through critical scholarship and research. Teaching methods should be reformed. Teaching should be adapted to the mind of the learner. Dury proposed an enriched elementary curriculum, and the maintenance, at public expense, of common schools and of schools preparing boys for the professions, business, industry, and public service.

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[12] Dury, John, *A Description of a Transmarine School.* Printed in Corcoran, Rev. T., *Studies in the History of Classical Teaching, Irish and Continental* (1500–1700), pp. 236–247. Dublin and Belfast, The Educational Company of Ireland, 1911.

[13] Adamson, J. W., *Pioneers of Modern Education,* p. 143. Cambridge, University Press, 1905.

Sir William Petty. Born to poverty, William Petty (1623–1687) won by his own efforts education, wealth, position, and fame. After a period of study at Amsterdam, Leyden, and Paris, he became merchant, physician, vice-principal of Brasenose College, professor of medicine at Oxford, professor of music at Gresham College, surveyor of Ireland, inventor, and political economist. A friend of Thomas Hobbes and Robert Boyle, he was a leader among the founders of the Royal Society.

Petty's views on education are to be found in his correspondence, in his directions respecting the education of his sons, and in an essay *The Advice of W. P. to Mr. Samuel Hartlib for the Advancement of Some Particular Parts of Learning.* His views reflect the fact that he was at once a self-made man, a scientist, and a humanitarian reformer. His directions for his sons' education outlined the familiar realistic curriculum, long the course of study of the English gentry. This scheme included arithmetic, with its practical applications, geometry, and geography; writing a Latin, "clerklike" hand; history; logic; standard literature; law; drawing; sports; and the polite accomplishments. Petty directed his sons to know the great families of England, and to form connections with powerful and influential persons, among whom he mentioned especially persons in high offices, successful lawyers, and "men who make the news their business."

In his essay on education, Petty recommended the "Office of Publick Addresse," advocated by Hartlib and Dury. He urged the writing of an encyclopedia. He proposed, too, the establishment of educational institutions of three sorts. The first was a "Literary Workhouse" (*Ergastulum Literarium*). This was to be a common school, attended by all children, the poor to be admitted without cost. Pupils were to be taught how to earn something toward their living, as well as to read and write. Even the well-to-do were to learn trades; for Petty believed that the mastery of a trade taught industry, was useful in dealing with artisans, tended to make one a patron of the arts, and afforded a means of healthful and innocent recreation.

Petty recommended as a second type of school a "Gymnasium Mechanicum, or Colledge of Trades-men," for the "advancement of all Mechanicall Arts and Manufactores." This institution was to be of high grade, for the history of arts, design, experimental research, and invention were to be the major courses in its program. Within the College of Tradesmen was to be an institution called a *Nosocomium Academicum,* which was to contain botanical and zoölogical gardens, an aquarium, art galleries, and museums of all the arts and of natural history.

As previously stated, Petty advocated universal education. He urged the reform of the teaching profession so that "the business of education be not . . . committed to the worst and unworthiest of men, but that it be seriously studied and practiced by the best and abler persons."[14] Few, he believed, should learn foreign languages; moreover, before pupils studied languages, they "should be taught to observe and remember all sensible objects," which their teachers should call to their attention. Petty, however, like Comenius, recognized the importance of books and of theory in scientific and practical work. He declared openly for liberty of conscience in religious matters, and for religious toleration.

Charles Hoole. Schoolmaster and clergyman of the Church of England, Charles Hoole (1610–1667) has been accounted "the most important writer on contemporary school practice of the seventeenth century."[15] He translated into English the *Orbis Pictus* of Comenius and the *Colloquies* of Corderius. He prepared an English-Latin vocabulary, a first Latin book, various other textbooks, and editions of standard authors. By far his most important book is *A New Discovery of the Old Art of Teaching School,* a book on school management and the art of teaching. In this work Hoole discussed school organization; methods of teaching and of classroom management; courses of study; and books to be used, both in the petty, or elementary, school, and in the Latin grammar school.

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[14] Barnard, Henry, *English Pedagogy* (Second Edition), Vol. I, Part II, p. 201. Syracuse, C. W. Bardeen.

[15] Watson, Foster, "Charles Hoole," in *Cyclopedia of Education,* Paul Monroe, Editor, Vol. 3, pp. 308–309. New York, Macmillan, 1913.

Most of Hoole's ideas have already been encountered in the preceding study of other authors. He believed that all pupils whose parents could send them to the grammar school should be entered there. The method of teaching Latin which he described is essentially the double-translation method of Ascham and of Brinsley, to whose writings he frequently referred. He urged mild but watchful discipline. Work, he thought, should be adapted to the pupil's ability, and new material presented through what the pupil already had acquired. Hoole advocated frequent reviews. He emphasized the importance of class organization, and of careful attention to the details of school management; and he thought that much use of English should be made in the schools.

Certain of Hoole's ideas entitle him to be placed in the company of his much better known contemporary, John Amos Comenius. He taught that literacy should be universal. Accused of trying to make the "way of knowledge too common a thing," he asserted: "To make knowledge too common, in my judgment, is impossible."[16] Hoole was, in accordance with the fashion of the day, a Sense-Realist. He wrote: "There is nothing in the understanding which has not come through the senses." Hoole, first among English theorists, suggested an enriched course of study for the elementary school. He pointed out that children who have attended an "English," or reading, school until they are able to read their own language are likely, unless entered at a Latin school, to waste their time until they take up their trades. He suggested a broader English curriculum for them, as follows:[17]

> It were good if they were put to a Writing Schoole, where they might be, First, helped to keep their English, by reading of a chapter (at least) once a day; and second, taught to write a fair hand, and thirdly, afterwards exercised in Arithmatique, and such preparative Arts, as may make them compleatly fit to undergoe any ordinary calling. And being thus trained up in the way of discipline, they will

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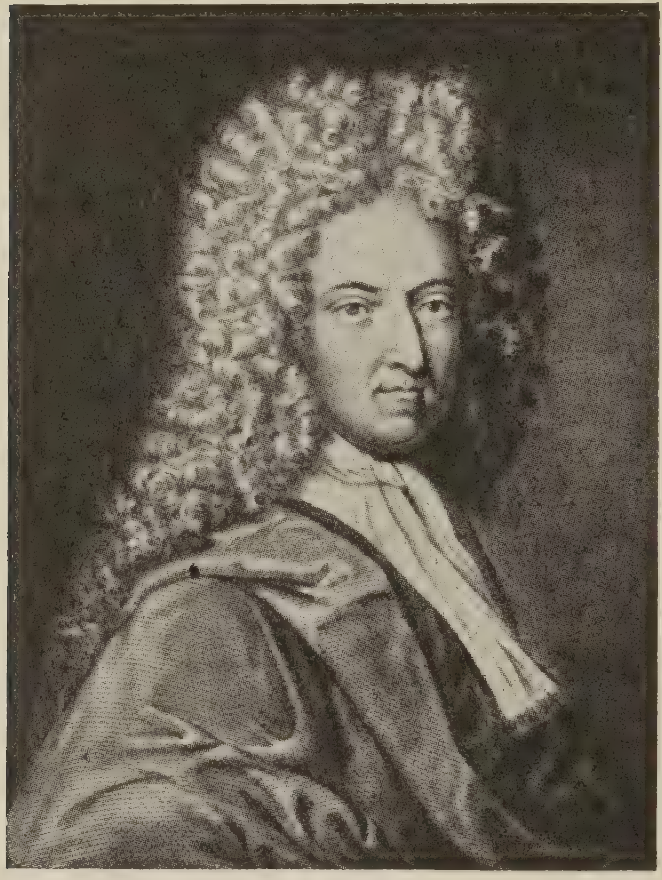
[16] Quoted by Mark, Thiselton, in his Introduction to Hoole's *A New Discovery of the Old Art of Teaching School,* p. xxxvi. Syracuse, C. W. Bardeen, 1912.

[17] Hoole, Charles, *A New Discovery of the Old Art of Teaching School,* p. 56. Syracuse, C. W. Bardeen, 1912.

> afterwards prove more easily plyable to their Masters' commands.



Daniel Defoe.

Daniel Defoe. Representative of the forces making for progress are the proposals of Daniel Defoe (*c.* 1659–1731). In his *Essay on Projects* (1697), Defoe proposed academies of three types. The first and highest was to be modeled after the French academy: [18]

> The work of this society [academy] should be to encourage polite learning, to polish and refine the English Tongue,

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[18] Defoe, Daniel, *Essay on Projects,* pp. 233–234. London, Thomas Cockerill, 1697.

> and advance the so much neglected faculty of correct language, to establish purity and propriety of style, and to purge it from all the irregular additions that ignorance and affectation have introduced; and all those innovations of speech, if I may call them such, which some dogmatic writers have the confidence to foster upon their native language, as if to make their own fancy legitimate.
>
> By such a society I dare say the true glory of our English style would appear, and among all the learned part of the world be esteemed as it really is, the noblest and most comprehensive of all the vulgar languages of the world.

The thirty-six members of this academy were to serve as censors of books and plays; and were to pass on the admission of new words to the language, and upon questions of form and use of words. Lectures on language and literature were to serve to refine taste and elevate style.[19]

The second academy proposed was to be "A Royal Academy for Military Sciences." Defoe proposed, also, academies for women, in which they were to be liberally educated. His scheme is of special interest because, on the whole, it neglects the classics.

Defoe's manuals of family training, those for the guidance of young tradesmen, and his *The Compleat English Gentleman* are also of interest to the student of education. Benjamin Franklin, founder of the University of Pennsylvania, owned his indebtedness to the *Essay on Projects* for many of his ideas on education.

Textbooks. The 17th century witnessed the triumph of the English language in English schools. Professor Foster Watson writes: [20]

> In the sixteenth and seventeenth centuries text-books had slowly but surely been changing from Latin to English. . . . In all departments of the school curriculum, the best books were, by 1700, to be found in English.

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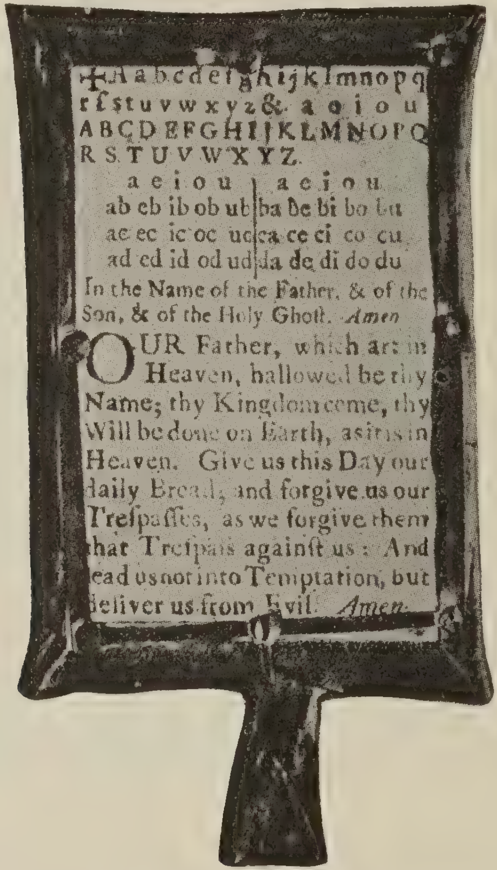
[19] Swift, Jonathan, *Proposal for Correcting, Improving and Ascertaining the English Tongue* (1712), suggests the regulation of the English language by an academy. Consult *Encyclopaedia Britannica,* 14th Edition, Vol. 21, p. 662.

[20] Watson, Foster, *The Beginnings of the Teaching of Modern Subjects in England,* pp. 530–531. London, Sir I. Pitman and Sons, Ltd., 1909.

Lists of English words developed into spellers. *Lily's Latin Grammar* was translated into English, and the translation was later supplanted by English grammars. Two famous early English grammars were Greenwood's *Grammatica Anglicana* (1694), which was written in Latin, and Brightland's *Grammar of the English Tongue* (1712). The textbooks of Corderius, Bateus, and Comenius were adapted for the use of English students, and found many imitators. Arithmetics had begun to appear in England in the 16th century, but the subject was by no means universally studied even in the early 17th century. Pepys, after he had for two years been clerk



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ac ec ic oc uc | ca ce ci co cu
ad ed id od ud | da de di do du
In the Name of the Father, & of the
Son, & of the Holy Ghoſt. *Amen*
OUR Father, which art in
Heaven, hallowed be thy
Name; thy Kingdom come, thy
Will be done on Earth, as it is in
Heaven. Give us this Day our
daily Bread; and forgive us our
Treſpaſſes, as we forgive them
hat Treſpaſs againſt us: And
ead us not into Temptation, but
deliver us from Evil. *Amen.*

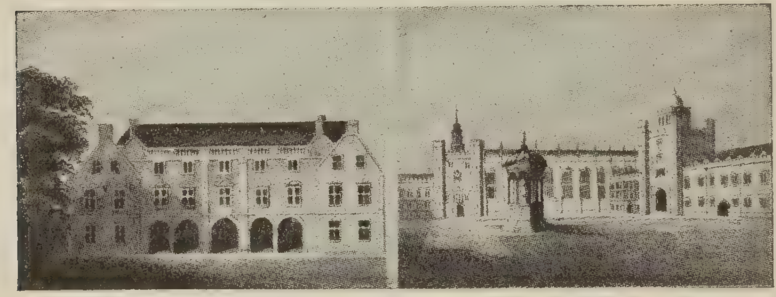
A Hornbook, from the Time of Charles II.

of the Acts of the Navy and clerk of the Privy Seal, employed a tutor and undertook the study of the multiplication table. Arithmetic, however, commended itself because of its use in commerce and the arts, and made steady progress during the period. With the appearance, in 1661, of Hodder's *Arithmetic,* the subject may be said to have fairly won its place as the third of the "three *R*'s." The study of modern foreign languages was exceedingly popular in the 17th century. The chief causes for this popularity seem to have been the rapid progress of modern literature and language study, the great amount of travel, and the decline of Latin as a medium of international communication. The age for the teaching of history and the sciences was still to come; but epitomes and other manuals were common. Characteristic of the age were the books written for home instruction, and used for the self-education of clerks, apprentices, and other youths in trades and commerce. The content and the character of school books were steadily changing; the triumph of the new curriculum was at hand.

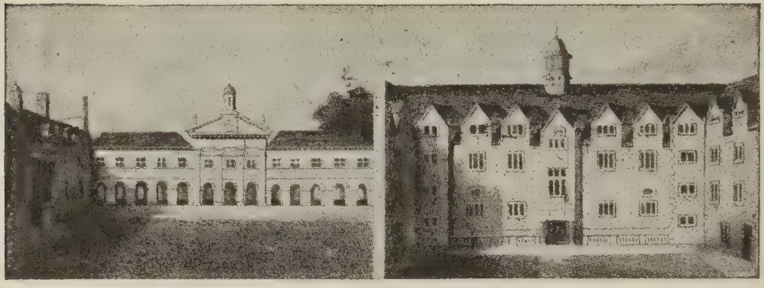
III. Universities and Schools

Universities. During the 17th and 18th centuries, Oxford apparently remained the university of the Middle Ages; actually it was being profoundly changed. Teaching was done in the colleges, and the university professorships became less important than formerly. Old statutes fell into disuse. Oxford adopted the custom of electing non-residents as chancellors, who defended the university at the English Court and who were watchful of loyalty and religious conformity at the University. Medieval disputations were retained, but examinations for degrees were instituted. The curriculum remained unchanged in outline, but under the surface it was affected by the rise of mathematics and science. The "Invisible University," which later gave rise to the Royal Society, was founded at Oxford in 1645. The prestige of the classical curriculum was further undermined by subsequent progress in mathematics and science. After the Restoration, leaders among the scientists were to be found rather at Cambridge and London than at Oxford; and the exclusion of non-conformists from the latter university lost to it a considerable number of the intellectual leaders of the nation. Historians agree that the level of scholarship at Oxford declined in the 17th century, and that not until the 19th century did the university recover the standing it had before the Civil War.

At Cambridge the situation was different. Though Laud's oppressive policy drove some able men from the university, this loss was not without compensating importance, as these men founded in America a daughter of Cambridge, Harvard College. In the first part of the 17th century, Francis Bacon defended the political independence of the university; and under the Commonwealth it prospered. The Act of Uniformity, passed in 1662, bore hard upon Cambridge, and in some respects the university actually declined. This period in the history of Cambridge was, nevertheless, made illustrious by the achievements in mathematics of Isaac Barrow and of his great pupil, Isaac Newton, in whose favor Barrow resigned his professorship. The development in mathematical scholarship,



Magdalen College. *Trinity College.*



Emmanuel College. *Sidney Sussex College.*

Cambridge University, 1840.

which led to the establishment, in 1747, of the first mathematical tripos, began with these men. In 1685, chairs of chemistry were established at both Oxford and Cambridge.

Grammar schools. The treatises of John Brinsley serve to indicate the nature and status of grammar and elementary schools in England during the 18th century. Plans of study remained much as they had been in Tudor England, but the institutions were changed in character. Latin was relegated in the life of the nation to a place very different from that which it had held when Elizabeth came to the throne: it ceased to be the one language of scholarship, and no longer enjoyed the reputation of being the only language, save Greek, with a distinguished literature. Translations, possessing literary merit equal to that of the originals, were made of ancient and foreign works; and there was produced in English a literature which has taken and still holds a high place among the great literatures of the world. Latin had so far declined in popular use that, at the Restoration, the Latin secretary to the king was dispensed with. The study of Latin was now begun with an attempt to master its grammar, before any facility in the use of the language was acquired. In the plan of St. Paul's School for 1690, virtually the entire school day of pupils in forms one to three was devoted to the study of grammar; in the plan for the fourth form, mornings were given to the subject, and afternoons were devoted to translation, which aimed primarily, however, at establishing mastery of grammar.

The domination of Latin schools by the grammarians aroused intense opposition. Milton and Locke ridiculed the barrenness of current practices. Locke suggested, as had Elyot and Montaigne before him, that nurses and tutors should use Latin as the language of ordinary speech, in order that boys might learn the language by what is now known as the direct method. John Brinsley suggested that materials for translation be so arranged as to make clear the grammatical structure of the text. Hoole proposed that the study of grammar be done in connection with reading, speaking, and writing Latin. The Commonwealth reformers, so-called humanistic Realists, wished children to proceed at once to the reading of authors whose works supplied information on practical matters of life.

The dispute regarding the place of grammar in the teaching of a language was one phase of the "grammar war." [21] Another aspect was the dispute between those who advocated a variety of grammars and those who preferred uniformity of texts. The "grammar war" continued; it crossed the Atlantic, where Hartford wits and Philadelphia members of the American Philosophical Society took a hand in the controversy, which now called into question the value of the classics as a subject of study for schoolboys. The classics, however, enjoyed the prestige conferred by their unquestionable literary merits, and by the dominating position they had long held.

As the nature of the demand for ancient languages changed, two favorite arguments, that have proved Trojan horses, were advanced for them. The first was the dogma that the literary monuments of antiquity were the best texts for use by schoolboys just beginning the study of agriculture, law, medicine, military tactics, politics, and education. The claim was utterly preposterous; its absurdity was repeatedly pointed out in the 18th century. The second argument employed by the grammarians was a perversion of the doctrine that character is shaped by exercise. The grammarians taught the structure of language and neglected content. Although the study of grammar is of great value to persons who are to use the habits acquired through it, the grammarians were not willing to confine their teaching to boys likely to need such information and habits; they insisted that every boy receiving more schooling than the barest instruction in reading and writing, should be put to the Latin grammar. They held that the performance, with rigid attention to detail, of virtually any unpleasant task will increase intelligence and develop habits of industry and patience. This doctrine of formal discipline is a mere caricature of the truth. The development of human personality is far too complex a process to be adequately described by any such formula. The attempt to guide educational training by this dogma has done great harm, not the least part of which has been that this caricature of discipline has brought discipline itself into disrepute.

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[21] For an account of this whole controversy, see Foster, Watson, *The English Grammar Schools in 1660,* pp. 276–292. Cambridge, University Press, 1911.

Elementary schools. Hoole's *A New Discovery of the Old Art of Teaching School* (1660) contains a section devoted to the petty, or elementary, school. From this book it is plain that in England the teaching of reading and writing was much neglected. In some places the parish clerk—and in more remote places, the minister—taught young children, but generally the task of grounding in reading and writing English was left to some old person, driven to this work in order to earn a miserable pittance. Hoole criticized such neglect of elementary education; he argued that the earlier stages of education are important, and pleaded for properly trained and supported teachers for primary schools. As this period drew to a close, the great school societies laid in England the foundations of an elementary school system.

Charity schools. It will be recalled that, during the Middle Ages, elementary schools existed in connection with parish churches, and that parish schools continued even after the Reformation. These schools were, however, not adequate for the needs of the nation. During the Civil War and under the Commonwealth government, Parliament undertook to found systems of elementary schools in England and Wales. Although these efforts were checked at the Restoration, there were many persons—both churchmen and non-conformists interested in the education of the poor in England and North America, and in the education and evangelization of the Indians—who felt that agencies furnishing free elementary education were needed. Thomas Gouge, who had been for some years before the Act of Uniformity a minister in London, conducted, in his parish, classes in which the children of the poor received religious and industrial training. This work was taken up by Gouge's friend, Thomas Firmin, a silk merchant, after Gouge, as a non-conformist, was ejected from his charge. Gouge then threw himself into an effort, in which he had the support of a group of churchmen and non-conformists in London, to evangelize Wales. Funds were contributed by his London supporters and by the Welch. About three hundred elementary schools were established in Wales, and Bibles were distributed throughout the country.

Charity schools multiplied in the late 17th century; they were founded by individuals and by Catholic, dissenting, and Anglican congregations. Two societies of the Church of England—the Society for Promoting Christian Knowledge (S. P. C. K.), founded in 1699; and the Society for the Propagation of the Gospel in Foreign Parts (S. P. G.), founded in 1701—promoted charity schools so diligently that they fairly dominated the charity school movement until other societies of the Church of England were organized to take over the educational phase of the work. The object of these societies is indicated by their names. Working through missionaries and elementary schools, they offered instruction in church catechism, reading, writing, elementary mathematics, navigation, gardening, farming, and household arts, such as spinning, sewing, and knitting. The societies even promoted grammar schools. The S. P. C. K. apprenticed some boys; while, for those who displayed special ability, places were provided in the higher schools and universities. The society had, in 1704, eighty-nine charity schools in England. The S. P. G. carried on its work principally in British colonies; until the American Revolution it was especially active in Rhode Island, New York, Pennsylvania, Virginia, South Carolina, and maintained schools in other colonies. It supported over three hundred and forty missions, in addition to many schools.

The S. P. C. K. and the S. P. G. educated a large number of children, and the success of their efforts stimulated the formation of a great number of societies for promoting free education. The attitude of their leaders toward the creation of secular systems of schools, under the control of civil officers and entirely removed from church influences, will be discussed later.

Dissenting schools. The Restoration was disastrous to school reform in existing grammar schools and universities; but the policy of the government, which checked Realism and freedom of teaching in the schools aligned with the Established Church, resulted in the development of the dissenting lower schools and academies. Their founding came about as follows:

The Act of Uniformity (1662) and subsequent legislation designed to give force to the government's efforts to repress dissent, forced a great number of able ministers, schoolmasters, and tutors from their positions. All who refused to conform to the established religion were excluded from the universities. Ministers and teachers who were non-conformists began to open schools as a means of earning a living and of educating their children, who could not attend grammar schools or universities without subscribing to the doctrines which their fathers were resisting. The Five-Mile Act was enacted to prevent persons "not well affected to the government of His Majesty and the doctrine and discipline of the Church of England" from teaching. The "Oxford Oath" was invoked against graduates who taught without the sanction of their universities.[22]

In spite of repressive measures the schools of dissenters were able to maintain themselves. Their teachers were, as a rule, men of education and ability, and the training they offered was of high quality. The schools of dissenters were exceedingly popular between 1662 and 1800, just when the grammar schools and universities reached their lowest ebb. The legality of non-conformist schools and academies was tested in the courts. In 1670, judgment was given, in what is known as Bates case, to the effect that no schoolmaster nominated by the founder or lay patron of a school could be ejected for teaching without a bishop's license. This decision protected existing schools and served as an incentive for establishing new ones. The founding of schools proceeded rapidly in the late 17th and early 18th centuries. The endowed schools commissioners reported three thousand such schools in existence in 1851, nearly one thousand of which were founded between 1660 and 1730. In 1700 the decision in Cox's case declared: "There was not and never has been an ecclesiastical control over any other than grammar schools." [23] In 1714 the courts held that keeping an elementary school without a bishop's license was not a civil offense.[24]

Academies. Dissenting academies offered work of the same level as that in the colleges of Oxford and Cambridge.

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[22] For the full text of this oath, see Parker, Irene, *Dissenting Academies in England,* p. 66. In 1334 an attempt was made to found a university at Stamford. Oxford and Cambridge resisted this invasion of their monopoly, by requiring all candidates for a degree to swear not to teach "as in a University" without university sanction. The oath continued to be administered for centuries. Parker, Irene, *Dissenting Academies in England,* Cambridge, University Press, 1914.

[23] Quoted in Parker, Irene, *op. cit.,* p. 50.

[24] *Ibid.,* p. 50.

Pupils were admitted to them only after having acquired proficiency in the use of English, Latin, and Greek. The dissenters conducted, also, lower schools in which boys were grounded in the languages. These lower schools were so like the elementary schools and the lower grades of the grammar schools that no additional information need be given concerning them. It was in the academies that the real innovations took place.

Irene Parker divides these academies into three classes: [25] (1) those of from 1663 to 1690, (2) those of from 1690 to 1750, and (3) those of the period subsequent to 1750. In this chapter, academies of the first and second periods only will be discussed.

Academies of the first period had usually but a single tutor and from thirty to forty pupils. At the beginning, lectures and recitations were in Latin, and students were permitted to speak English only in the evening; however, before the close of the first period, English had supplanted Latin as the language of instruction. Students wrote English exercises and essays, and read English as literature. The ancient languages were not neglected: there were exhibitions in Greek and Latin grammar, and once a year the entire Latin grammar was recited. In addition to English and the ancient languages, the academies offered instruction in modern foreign languages, geometry, astronomy, trigonometry, natural science, logic, rhetoric, metaphysics, ethics, geography, history, anatomy, and politics. [26]

The work of the dissenting academies exercised considerable influence on education in New England. Charles Morton, head of the academy at Newington Green, where Defoe was educated, went to Massachusetts in 1685 and was made vice-president of Harvard College. Before the 18th century was far advanced, institutions having much in common with dissenting academies were flourishing in Boston, New York, and Philadelphia. Both the dissenting academy and the American college developed a four-year curriculum, the lower classes of the college or academy offering work usually done in the upper forms of the grammar schools. This practice may have been adopted to deal with a situation growing out of the lack of strong grammar schools, among both the English dissenters and the American colonists. Well into the 19th century the practice of preparing boys for the sophomore and junior classes of standard colleges was quite general among the best preparatory schools.

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[25] *Ibid.,* p. 57.

[26] *Ibid.,* pp. 68–70.

In the second period, the academies greatly enlarged their offerings in mathematics and science, and began to offer training in commercial subjects. The academies grew in size and in favor. They admitted all pupils, without making any religious discrimination; and many sons of members of the Church of England were educated in them. Among the great men produced by the academies of the period were Joseph Priestley and Richard Price.

3. Pietism and the New Christian Education

Pietism was the name given to a religious awakening which occurred in Germany toward the end of the 17th century. It exerted a profound influence on German life, literature, philosophy, and education. Like *Methodism* (a little later in England), the term was first used in derision. Beginning in Germany, the movement rapidly spread to other European lands and to America, where it had important educational effects. On the religious side the originator of the movement was Philip Jacob Spener—at first, pastor at Strassburg, and later, court preacher at Dresden and Berlin. The educational and missionary head of the movement was August Hermann Francke, who established the Francke institutions at Halle, where he was professor in the university.

Causes of the pietistic movement. Pietism resulted from a variety of causes, inherent in the religious and other conditions of the time. Exhausted by the Thirty Years' War, Catholics and Protestants found it necessary to suspend further bloodshed and destruction. The Lutheran Church was ruled from without by the civil authorities and from within by autocratic theologians, all of whom agreed among themselves no more than they did with the Catholic or Reformed Church theologians. Individuals were obliged to change their religion according to the kingdoms in which they resided or the universities they attended. The prolonged struggle over the precise statement of the orthodox creed produced complete religious formalism and sterility. The clergy assumed that the mere profession of sound doctrine would insure salvation. Moreover, the war had destroyed the moral habits and standards of the people, and produced a pagan bestiality. The pastors were no longer interested in the practice of Christian living, or in teaching the Christian virtues. Luther had held the heart to be the seat of religion and faith the all-sufficient means of grace; but the later striving after credal orthodoxy had made religion a matter of hair-splitting, intellectual discrimination, and the church services, creed-bound ritualism. Pietism was the reaction against all this cold, deadening, rancorous system, in consequence of which there arose throughout Germany a deep longing for freedom from the odious tendency of the ruling theology.

On its positive side, Pietism was no new religious phenomenon; it was just one of the ever recurrent revivals of the warm-hearted, evangelical Christian spirit which always reappears as a reaction to an era of formalism. Throughout the history of the church, periods of dogmatic formalism and rationalism have invariably been followed by the reassertion of the more emotional, sacrificial, and mystical expression of the Christian consciousness. Moreover, periods of moral laxity and pagan licentiousness have usually been followed by times of puritanic rigor.

Again, Pietism represented a reaction to the distress and blight due to war: the more disconsolate and disappointing the present lot and life in this world, the greater the tendency to transcend the present and look toward a brighter hope and happier future either in this world or the world to come. Pietism placed a new emphasis upon Christian love, self-examination, conversion, and study of the Scriptures. It strove for a knowledge of Christ as an inner light, a sense of peace and forgiveness. This experience is expressed in love and sacrifice for others. It required the separation of the individual from the world and the avoidance of the ordinary pleasures of life, which were regarded as sinful. Pietists were opposed to dancing, children's play, theater-going, overdressing, joking, and the reading of romances and even of newspapers. They united Luther's insistence upon the study of the Scriptures, prayer, and faith, with the Calvinistic insistence upon puritanism in conduct. But they went further than either of these in emphasizing the experience of new birth, the inner light, and a certain degree of mysticism.

The Pietism of Spener and Francke was not separatist in character but remained within the bounds of Lutheran Christianity. Its leaders had no thought of forming an independent religious body. The movement was, in fact, very largely in harmony with Luther's early evangelical point of view. It was, however, more irenic in tendency and readily coöperated with the Church of England, the Reformed Church, and many of the persecuted sects of Germany. Several of the older sects, such as the Moravian Brethren and the Salzbergers, were revived through contact with Pietism. The evangelical spirit, while one of the fundamentally essential methods of interpreting Christianity, has no fixed limits of expression. It constantly labors under the inherent weakness of all emotionality, the danger of exaggeration of its central tendencies. Hence, a number of new and separatist bodies ran the principles of Pietism into licentiousness and fanaticism.

The emergence of Pietism about the same time as scientific Realism was by no means a mere accident or coincidence. As a matter of fact, Pietism in its main character was the religious aspect of the contemporary realistic movement. As the one drew its strength from direct individual experience of the objects of the external world, the other emphasized the indispensable need of a vital inner religious experience. As Realism was a reaction against authority in the sphere of knowledge of nature, similarly the insistence upon conversion, the inner light, and religious feeling was in opposition to externalism and authoritarianism in religious life.

Pietistic criticism of the schools. Spener was distinctly critical of the education of the past. Neither the Lutheran nor the Jesuit schools had given real emphasis to the development of Christian virtues and practical piety. Spener was strongly under the influence of Andreä and his Christian idealism. Because of the lack of genuine religious training for the young, he made the following criticisms of education: (1) The schools always provide for secular knowledge, which is of service only in this life, but they do nothing to cultivate the feelings which produce a living Christian faith and the fruits thereof. (2) Most of the time is devoted to learning

Latin, the language of the learned class, and very little time is left for Greek and Hebrew, the languages of the Scriptures. (3) Too little attention is given to the Holy Scriptures, and too much to memorizing dogmatic doctrines. (4) In the school curriculum the heathen ethics of Aristotle are substituted for Christian morals. (5) Teachers must have regard to the godly living of their students as well as to the acquisition of knowledge.

AUGUST HERMANN FRANCKE

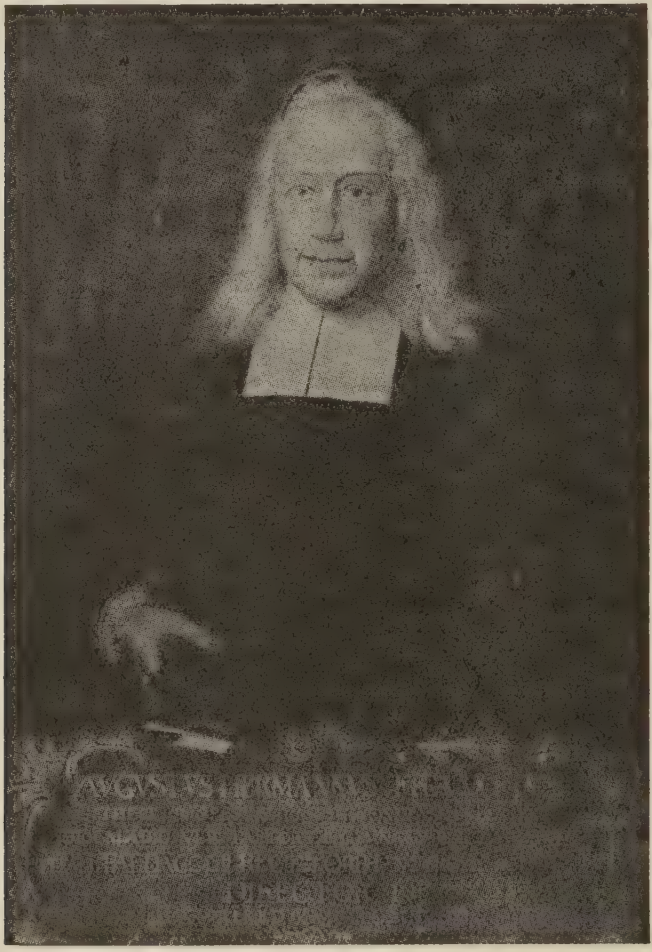
Life. August Hermann Francke is the finest example of the practical Christian educator that the 17th century produced. It may well be doubted if there ever has been in the history of education a more efficient representative of the evangelical spirit. He was born in 1663 at Lübeck, where his father occupied an important legal position. When the lad was three years of age, the father was appointed privy councilor and justice by Duke Ernst the Pious, in Gotha. Here the father died prematurely, when the boy was only seven years of age. August Hermann was given a good education, under private instruction, until he was prepared to enter the advanced class of the gymnasium. As he was extremely brilliant, he was able to complete in one year the gymnasium course in preparation for the university. Still only in his fourteenth year, he was given several years of further private instruction before he entered the University of Erfurt. Intending him for clerical office, his guardian placed him under private scholars, who trained him in special lines. Francke's studies took a wide range, including Greek and Hebrew; philosophy, with special emphasis upon metaphysics and ethics; general history and church history; physics and natural history; theology; and rhetoric. As Francke was a young man of real ability and of indefatigable industry, he became a genuine scholar. Proceeding to the University of Leipzig, he took his degree and became an instructor. He lectured formally on the Scriptures, and in the afternoon conducted a private class in the study of the Bible for practical religion. This class attracted large numbers of students. Well started on his way to success as an intellectual and scholarly leader, Francke went on a short visit to Lüneburg, in order to come under the instruction of a noted theologian, Superintendent Sandhagen. It was here that he had the great experience which was completely to transform his heart and life. From early years Francke had shown a pious spirit, but nevertheless he was possessed with powerful instincts leading to a self-centered and ambitious career. Assailed by doubts of the truth of the Christian religion and the Scriptures, he found himself, while at Lüneburg, obliged to preach on a special evangelical text. Praying earnestly for light, he experienced a sudden conversion, which soon made him one of the two great leaders of Pietism. It was immediately after this experience that he became acquainted with Philip Spener, who had already begun to give a new impetus to evangelical religion in Germany. Henceforth these two were of one mind and spirit.

Being driven from the University of Leipzig, and later from a pastorate at Erfurt, by the enemies of the pietistic attitude, Francke was appointed, through the efforts of Spener, to the chair of oriental languages and religion at the University of Halle. This institution had just been founded, in 1694 by the Prussian King, to counteract the hostility of Leipzig and Erfurt toward progress in science and theology. To provide for his living, Francke was appointed to the pastorate in the suburban village of Glauchau. Here, in this dual capacity as university professor and village pastor, Francke found a favorable setting for colossal achievements in philanthropy and education. Here he established an astonishing number of institutions and sent forth an influence which penetrated throughout Germany and had a very definite power in America and elsewhere.

Francke's preparation as an educator. Francke's interest in education was no sudden awakening. Gotha, where he was reared from the time he was three to the age of sixteen and where he later spent many months visiting his mother and sister, was the center of the educational reforms of Duke Ernst. While Francke never referred to this influence, it is hard to believe that it made no impression on his active youthful intelligence. The progressive atmosphere of Gotha must have entered deeply into his inner life. While an instructor at Leipzig, he delivered a course of lectures under the title

The Education of Boys and Pubescents,[27] which showed that he was profoundly interested in educational problems.

But the real motivation of Francke's life came with his conversion, when a boundless reservoir of love for God and for his fellow men filled his heart. It took the direction of a desire to do something of a constructive and achieving character. He came to believe that the reason for human de-



AUGUST HERMANN FRANCKE.

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[27] *De Informatione Aetatis Puerilis et Pubescentis.*

generation and unhappiness lay in the neglect of genuine Christian training in childhood. To demonstrate the power of true Christian education in the home and school was henceforth his supreme ambition.

He was brought to a clearer understanding of his mission by a visit to Johannes Winckler, the leading pastor of Hamburg, who was an adherent of the pietistic group. Winckler was deeply interested in the establishment of schools for poor children. Francke spent some months in Pastor Winckler's home teaching in such an infant school. This experience very definitely led him to devote a large part of his life to the training of the young. He declared frequently that this work of teaching children at Hamburg was the basis of all that God afterwards accomplished through him. From this experience he came to have a deep conviction that the betterment of mankind depended "upon the education of children to piety and Christian wisdom."

An understanding of the spirit and devotion of the man can be ascertained from his attitude toward his mighty accomplishments. He was accustomed to attribute everything directly to God and nothing to himself. He frequently said: [28]

> The world ascribes these works which have gone through my hands to my activity. At one time they discover in me this, at another time that, which has made me capable of accomplishing a particular undertaking. The foolish world alone gives no honor to God but ascribes everything to the power of man. But if human intelligence were sufficient for these things, then indeed there would be many such orphanages and even greater ones; for there are many people more clever than I am. I have been in all matters always *passive*, have sat quiet, and have not gone a step farther, than I had the finger of God before me. When I saw what the hand of God had in store, I went at it like a slave and realized it without care or trouble. Accordingly, what has not turned out a success for others with all their intelligence, craft and wisdom, has come about for me without effort.

Principles of Christian education. Francke did not get his educational ideas from reading the works of others. Though he may have studied in childhood the Latin textbooks written by Comenius, strangely enough he had no acquaintance with the pedagogy of this great Christian educator. He praised very highly Fénelon's tractate, *On the Education of Girls, (De l'Education des Filles),* and even published a translation of it. But this by no means accounts for his educational principles or his success as a practical educator. One must conclude that his ideas were largely original, the fruit of his own experiences and, it may well be surmised, of his contact with educational reforms at Gotha.

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[28] Kramer, D. G., *A. H. Francke's pädagogische Schriften*, p. liv. Langensalza, H. Beyer & Söhne, 1885.

Educational aim. According to Francke, the supreme aim of life, for both adults and children, is to honor God. All conduct and thought must be made to conform to this end. No subsidiary aim, such as a particular vocation or profession, must be set before the children to arouse their ambition. Obedience and industry are to be awakened in them through the desire to honor God. All else is an appeal to the cupidity, to the selfishness, and to the natural jealousy of the human heart.

This main objective has two elements, godliness and wisdom (*Klugheit*). The most essential means for training in godliness are good example and a living knowledge of Christ. Examples of piety, avoidance of evil, the catechism, prayer, and the constant study of the Scriptures for light and guidance in practical living—these are the daily means or instruments of Christian education. Most Christians would substantially agree with Francke in this idea. But he went still further, and insisted upon the development of the evangelical spirit. For him, godliness is not merely a matter of good conduct, nor of ceremony, nor of knowledge; it is of the heart and will.[29]

> One dram of living faith is more to be valued than one hundred weight of mere historic knowledge; and one drop of true love, than a whole sea of learning in all mysteries.

In his pedagogy of the religious life, Francke anticipated much that has been learned in more recent days from the study of the psychology of religion.

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[29] Barnard, Henry, *German Teachers and Educators,* p. 413. Hartford, Brown & Gross, 1878.

Christian wisdom. Francke and the other Pietists were not obscurantists, nor even ordinary conservatives. They not only believed in the value of practical knowledge but were also intent upon pushing out the frontiers of the sciences. They endeavored to integrate knowledge and piety; but felt that learning must always be subordinate to practical Christian living and must always be made to contribute to the glory of God. "All learning and knowledge is folly if it does not have as its foundation true and pure love toward God and Man." Not only is knowledge to be utilized for the advancement of the honor of God, but, in a way, the Pietists came to look upon knowledge as originating from divine illumination. Earnest study is essential, but the discernment of truth is due to inspiration. According to Spener: [30]

> The Christian student prays as earnestly for divine illumination as if he had no need of his own industry, and studies with as much zeal as if he must do everything by his own unassisted labor.

The Pietists had come to realize that theological doctrines do not of themselves make for holy living; that goodness is rather a matter of the heart than of the head. Individuals had expressed this basic fact before, but their voices could not be heard above the clash and din of theological controversy. The horrors and sufferings of the Thirty Years' War made man realize the utter futility of coercive methods in fostering Christian piety. The first man to find the new path was Philip Jacob Spener, the father of the pietistic movement, but it was Francke who applied this idea to the education of children.

The sprouting of Francke's institutions. The institutions which Francke established may most fittingly be described as "sprouting" from insignificant beginnings. All of them were the result of the same spirit and, in a sense, they all formed a unit. They arose from his eager desire to grasp every opportunity that presented itself to help the needy, especially poor and ignorant children.

As pastor at Glauchau, he found poor children coming to him for bread every Thursday afternoon. He began his great work by calling them into his study and questioning them for a quarter of an hour about Luther's catechism and their Christian faith. This was at the beginning of the year 1694.

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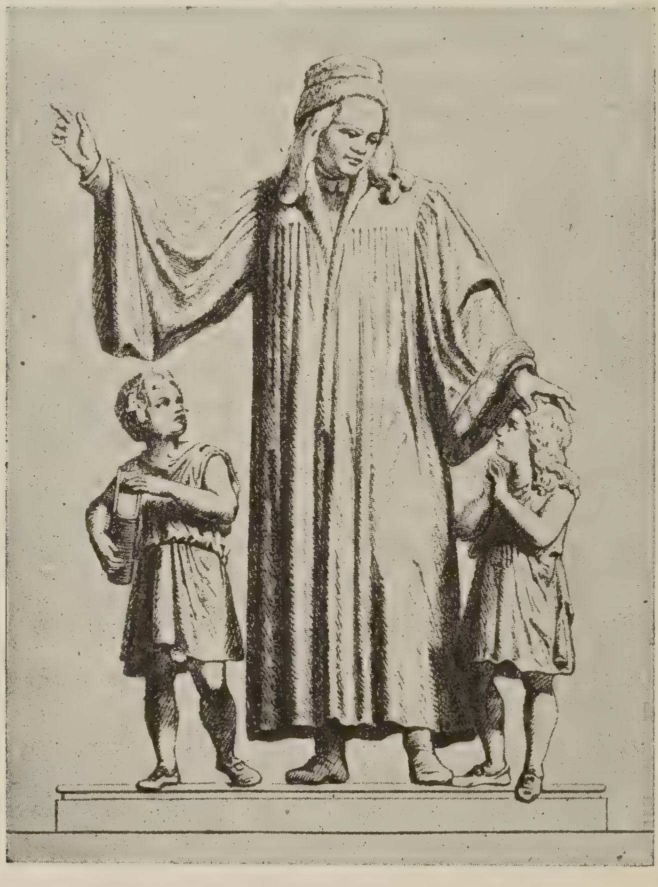
[30] *Ibid.*, p. 413.



Memorial to August Hermann Francke.

He soon discovered their incredible ignorance. His next step was that of providing funds for the tuition fees of some children by foregoing his supper each evening. But he quickly discovered they took the money but did not go to school. Next, he placed a box in his home for the depositing of alms for the poor. Finding therein a gift of seven gulden, he declared: "This is a handsome capital. I must do something important with it. I will establish a poor school." He bought twenty-seven books, which he gave to poor children, and employed a needy university student to teach them two hours a day. The children sold all but four books, and did not return for instruction. Francke purchased more books, but, instead of giving them to the children, he collected them at the close of each period. Such was the beginning of his poor school. So successful did it quickly become that some of the well-to-do citizens requested that their children be permitted to attend the classes for pay. The number of such pupils grew rapidly. Francke separated the two groups of children into two schools: the one for the poor, and the other for the children of burghers. These schools were both elementary in character.

In 1695, Frau von Geusau of Sandersheim, a woman of noble birth, requested Francke to select a tutor for her children. Having none to recommend, he suggested that she and others send their children to him at Halle. The first to come were three children, who were given instruction by university students under the special oversight of a director. This small beginning grew into one of the most important of Francke's achievements, the *Pädagogium,* a school for the youth of the nobility. It was later recognized by the Prussian King and placed under royal patronage.

The same year a friend presented him with five hundred thalers, with which he began his famous orphanages: one for boys, the other for girls. At first he bought several buildings for this purpose. But in 1696, having decided upon building a new structure, he sent his assistant, Neubauer, to Holland to secure information concerning Dutch orphanages, which were among the most superior in the world. This was the beginning of the movement for the establishment of orphanages in Protestant Germany; quite a large number were later founded after the model set by Francke.

In 1697, another school was organized for the boys of the middle well-to-do class who were preparing for higher training. This was first known as a Latin school, but was later recognized as an approved gymnasium.

About the same time Francke began to operate a free table for poor university students. In return for their meals these students were to give instruction in the schools. Some ten years later this group developed into the *Teachers' Seminar* *(das Seminarium Praeceptorum)*, a training class for common school teachers, and the *Select Seminar (das Seminarium Selectum)*, for teachers in the Latin schools. In these classes Francke initiated teacher training, so far as Protestant Germany was concerned.

Other institutions. The organizations mentioned in the preceding text do not complete the list of institutions which Francke founded. Discovering a demand for a new literature to satisfy the pietistic spirit, he set up a book and printing establishment called the *Canstein Bible Institute*, which printed and sold tracts, sermons, and copies of the Scriptures. It proved to be one of the best means for securing a steady income for the institutions. Again, having secured some popular prescriptions, he established an apothecary shop, which furnished medicines free to those who were in need but which, by its sales to others, brought in considerable funds.

Francke's work extended beyond the confines of Germany. The King of Denmark became interested in Christian missionary work in East India, and Francke was called upon to make the selection of the missionaries from among his students. He was a corresponding member of the S. P. G. and the S. P. C. K.; and his students established large settlements with churches, schools, and orphanages in several of the American colonies.

Institutions established by 1727. The colossal character of his achievements can be fairly measured by taking a cross-section survey of his various institutions at the time of his death. The institutions and their enrollments are indicated in the table on page 335.

In addition to these enrollments, there were many assistants and servants in the hospitals, the bookstore and printing shop, the apothecary shop, and other institutions. Verily this organization was a human beehive, all motivated by Francke's supreme passion, the honor and love of God. These institutions, still flourishing in Halle, are a most admirable monument of Christian philanthropy, especially when it is considered that they were established at the end of an age noted for religious intolerance, bitterness, and bloodshed.

Curricula. In the courses of study in his schools the emphasis was placed upon the religious, the useful, and the realistic; all the sciences were viewed from the standpoint of honor to God and love to fellow man.

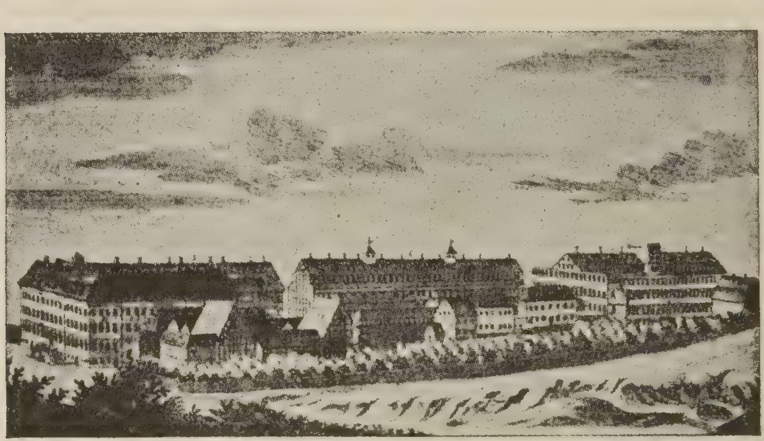
Religion was the primary, central feature of the course of study of every school. All other subjects were of secondary importance, their value being determined by what they could contribute to religious life. "All learning and all knowledge is vain and foolish if it has not the true and pure love of God and man." Every means was employed to keep children from evil influences and to implant piety in them. Religious music, catechism, and the Scriptures were compulsory studies; attendance upon church services was required. But Francke was not content with formal religious inculcation. He wished to make religion a living enthusiasm in the experience of every child. Accordingly, he set forth in detail a technique by which the spiritual life would be fostered, even in its most idiosyncratic aspects; prayer and worship were to be taught children, not as mere formal performances, but as vital religious experiences.

FRANCKE'S INSTITUTIONS, 1727

	Boys	*Girls*	*Total Enrollment*
Orphanages	100	34	134
German School			1725
Latin School	400		400
Pädagogium	82		82
	Men	*Women*	
Teachers in the schools	167	8	175
Ordinary free table for students teaching in his schools			155
Extraordinary free table for students teaching in his schools			100
Poor children fed at noon			148
Poor children fed at night			212
Institutions for young women:			
1. Girl's home			8
2. Boarding			15
3. Widow's home			6

Relation to Humanism. Francke's attitude toward Humanism was about the same as that of Comenius. His aim in teaching Latin was its value in an understanding of the culture of the day; he placed little emphasis upon Latin eloquence and rhetoric. There was no special opposition to classical authors as such, though some of them were manifestly obnoxious to the pietistic spirit. But Francke gave much greater emphasis to Greek and Hebrew, because they were the keys to unlock the sacred pages of Scripture. The charge has been made, and it was undoubtedly true, that classic Greek was neglected for the reading of the New Testament.

Realistic studies as extra-curricular activities. The relation of Francke to the development of Realism in the schools requires explanation. In his Latin school, in addition to religion and the ancient languages he included mathematics, history, geography, physics, botany, anatomy, painting, and music. For some unknown reason he did not offer French in the Latin school. In the *Pädagogium,* which was a school for young nobles, were found all these subjects, together with French, mineralogy, and astronomy. Francke also provided equipment for courses in mechanics, glass blowing, copper engraving, wood carving, and health guidance; a natural history museum and dissecting apparatus; an herbarium; and physical and chemical laboratories. Observation trips were made to shops of hand workers and artists. But all these activities were included as extra-curricular subjects, confined to free periods and employed for the purpose of relaxation. There was evidently no intention of utilizing these experiences for vocational preparation, except in the broader sense of the



FRANCKE'S INSTITUTIONS, ABOUT 1750.

term. Practical knowledge and handicrafts found no special place in the regular course of the German school, but they were introduced as extra-curricular activities. In the free periods, children were taken for walks, during which the objects of nature and the industries of man were explained to them. The free periods in the orphanage were occupied by the girls, with spinning, knitting, sewing, and housework; by the boys, with knitting and darning.

Semler and the introduction of realistic studies. The credit for the first attempt to establish a realistic school (*Realschule*) is usually given to Christopher Semler, a pastor of Halle. Semler occupied a neutral position in regard to Pietism, and had no special relations with Francke and his institutions. His genius lay in a mathematical and mechanical direction. He devised a number of useful inventions, and spent much time and money on others. Feeling the imperative need of giving children who must enter the lower vocations more accurate practical knowledge of things and processes, he instituted in Halle, in 1708, the first *Mathematical and Mechanical Real-School* (*Mathematische und Mechanische Realschule*). This work was independent of the town schools, and merely offered training for two hours on Wednesday and Friday afternoons. Semler could arrange such a program readily, for, in addition to his office as pastor, he was inspector of the poor schools of Halle. This first ef-

Francke's Institutions, 1900.

fort lasted only three years. In 1738 he reopened the school under royal patronage and with more organization, but this attempt ended with his death in 1740.

Summing up the situation, one finds that the tendency of Francke's educational philosophy was distinctly realistic and practical. If Realism is considered as an appeal to experience as such and an emphasis upon the useful aspects of knowledge, Francke was decidedly realistic. His views of religious life were a most direct appeal to experience: he felt that religion must be a living reality, a genuine experience of the heart and will. In the *Pädagogium* the use of French and the various sciences were all leaning in the direction of Realism. Moreover, it remained for one of his own students, Johann Hecker, to set up the first permanent *Realschule* in Berlin in 1747.

The attempts made by Semler to introduce Realism into training do not rob Francke of credit; they merely indicate that this form of education was agitating the minds of men somewhat generally. Francke probably sensed more clearly the unfavorable conditions which caused Semler's efforts to fail. For this reason he did not incorporate the realistic and practical studies in the regular curricula of his schools, but preferred to experiment with them as extra-curricular activities.

Francke's influence on Prussian education. Of special importance was the influence which Francke and his institutions exerted on the progress of education and school law in Prussia. Frederick William I, King of Prussia, visited Halle and later became its avowed defender. He founded the Prussian elementary school system on the principles of Francke. Of wider, deeper, and weightier influence, moreover, was the work of Johann Julius Hecker, who was educated under Francke and became a teacher in his *Pädagogium*. In later years, while pastor of Trinity Church, Berlin, Hecker founded the first real-school (*Realschule*) that attained abiding importance. Under Frederick the Great his influence became even more significant, when he wrote, at the request of the king, the general school law of 1763. This Prussian school law was in accord with the spirit of Francke's principles.

Numerous orphanages after the model of Francke's institutions were established throughout Germany. Moreover, men who were trained in his schools were in demand everywhere as pastors and as teachers and supervisors in orphanages and schools.

Francke's influence in America. The spirit and the institutions of Francke directly affected education in several of the American states, more particularly Georgia and Pennsylvania. This influence was exerted through his followers, a considerable number of whom came to America. During the early part of the 18th century, numerous sects migrated to the New World for the purpose of securing religious liberty. Small colonies of Salzbergers and Moravians settled in Georgia. These were highly evangelical in religion, and in both groups the pastors and leaders had been trained under the influence of Francke's institutions. Bishop Spangenberg, the chief agent of the Moravians, had been a Halle professor and an inspector of the Latin school in Francke's orphanages. The Georgia colonists established orphanages and schools which exercised considerable influence. Similarly, the Moravians and large bodies of Lutherans founded new homes in Pennsylvania, where their leaders likewise established orphanages, churches, and schools after the models of those of Francke. In all, several scores of Francke's followers, a number of whom had served as instructors or as supervisors in his schools, came over to Pennsylvania. The most prominent of these leaders were Count Zinzendorf, Henry Melchior Muhlenberg, and John Christopher Kunze.

Count Zinzendorf, a Saxon nobleman of great celebrity, lived in Francke's home and under his personal care for six years while a student in the *Pädagogium*. He was a man of like religious convictions and nature. He gathered the remnants of the Moravian Brethren and set up on his estate a religious community known as *Herrnhut*, that is, the "Lodge of the Lord." He united in his religious life the faith of the old Moravian Brethren, the piety and missionary zeal of the Pietists, the credal views of the Lutherans, and the strict discipline of the Reformed Church. Imitating the example of Francke, he established a number of orphanages and schools. Among these were a girls' orphanage at *Herrnhut*, a school for girls of the nobility, a home for noble ladies, a *Pädagogium*, and a Latin school.

The most important work of Zinzendorf, however, was the establishment of Moravian colonies and schools in Pennsylvania. Such colonies were begun in Bethlehem, Nazareth, Lititz, and elsewhere. These colonies were semi-communistic in character, and their schools were not merely places of instruction but institutions in which to live a well-ordered life. They had nurseries in which the young children were kept, boarding schools for boys and girls, and secondary boarding schools for adolescents. In these institutions, in addition to religion and the regular subjects the children were given vocational training. Several of the institutions have become very noted. All show the influence of Francke.

Zinzendorf, while the chief leader of the Moravians, coöperated with the Lutherans and the Reformed Church people. He hoped to bring about a larger measure of Christian unity among the various German elements in America.

Lutheran parish schools; German-English charity schools. It was likewise through the followers of Francke, especially Henry Melchior Muhlenberg, that a system of schools was organized among the Lutherans of Pennsylvania. Muhlenberg had been an instructor in a Halle orphanage, and later rose to an inspectorship. Selected by the son of Francke, who succeeded his father in directing the institutions, he was appointed to take charge of the Lutheran Churches about Philadelphia. When he arrived in 1742, there were approximately 50,000 Germans in Pennsylvania. By 1750 the number had increased to 90,000. There was great religious and cultural need among them.

Following the practice in Germany, each congregation in Pennsylvania established a parish school alongside the church. The teachers usually were German immigrant schoolmasters. The importance of Muhlenberg's work lay in the fact that he created a uniform system of parochial schools. He secured schoolmasters, admonished the people to support them, visited the schools, and examined pupils and teachers. Because of the great difficulty in conducting the schools, especially the lack of steady support, Muhlenberg coöperated with the movement of Benjamin Franklin and Dr. William Smith, of the Academy and Charity School of Philadelphia, to establish charity schools. Funds were supplied by the S. P. G. in London and by similar charitable organizations on the Continent. As a result of these efforts, a number of German-English schools were conducted. The movement had the coöperation of the Church of England, the Lutherans, and the Reformed Church, but was vigorously attacked by the quietist groups and came to an end after about ten years. The Reverend Michael Schlatter was the officially designated *superintendent* of the system.[31]

Some twenty-four pastors and teachers from Francke's schools assisted Muhlenberg. The chief of these was John Christopher Kunze. While pastor in Philadelphia, he established a Latin school in 1773, with a view to giving a better secondary training to future pastors and teachers. He served on the faculty of the University of Pennsylvania, into which institution he introduced the German language, literature, and philosophy. Removing to a pastorate in New York City, he performed the same service for Columbia College.

The general results of Pietism. Pietism exerted highly important effects upon the culture of the age. These may be briefly summarized as follows: (1) Pietism placed a new value upon feeling or emotion. This emphasis upon the right of feeling in religion paved the way for the justification of feeling in all other aspects of life. (2) It emphasized the study of the Scriptures in relation to conduct or practical piety rather than the catechism and dogmatic theology for doctrinal orthodoxy. (3) It vindicated the rights of laymen to participate in church services. (4) It gave a powerful new impetus to hymnology. (5) It brought forth a strong new interest in practical philanthropy and missionary work. (6) Its chief significance, however, lay in the renewed interest it imparted to Christian education. This influence is found especially in the institutions—in the methods and the reorganization of education as a synthesis of Christian culture, realistic knowledge, and training for practical life. (7) The greatest contribution lay in directing attention to the need for education of all children, the poor as well as the rich.

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[31] The title *superintendent* was used in Germany for a Lutheran Church officer who performed many of the functions which were performed by the bishops in the Roman Catholic Church. Among these functions was the supervision of parish schools. The duties of Schlatter were confined to this one function, and apparently he was the first *school superintendent* in America.

Weakness of pietistic education. These efforts of the Pietists have not received due credit in the history of education. Their influence would have been even greater had it not been for several inherent weaknesses of Pietism and a great revolution in man's philosophic conceptions. Pietism at its best was narrow and one-sided, and it had a tendency toward fanaticism. The intensity of the evangelical spirit is not universal. Consequently, in the end, it was Locke's new philosophy of Empiricism and the succeeding Enlightenment which turned the thought of education from Pietism.

Knightly academies. During the 16th century the education of the princes occupied attention and was highly elaborated in Italy, France, and England. The theory held that the princes and nobility needed education to be competent rulers of their domains. In France, several academies were set up to serve this end. Furthermore the brilliancy of the French court became the model for all others in Europe. In England, young nobles were trained at home by private tutors, and then sent to universities and on tours to the Continent to complete their knowledge.

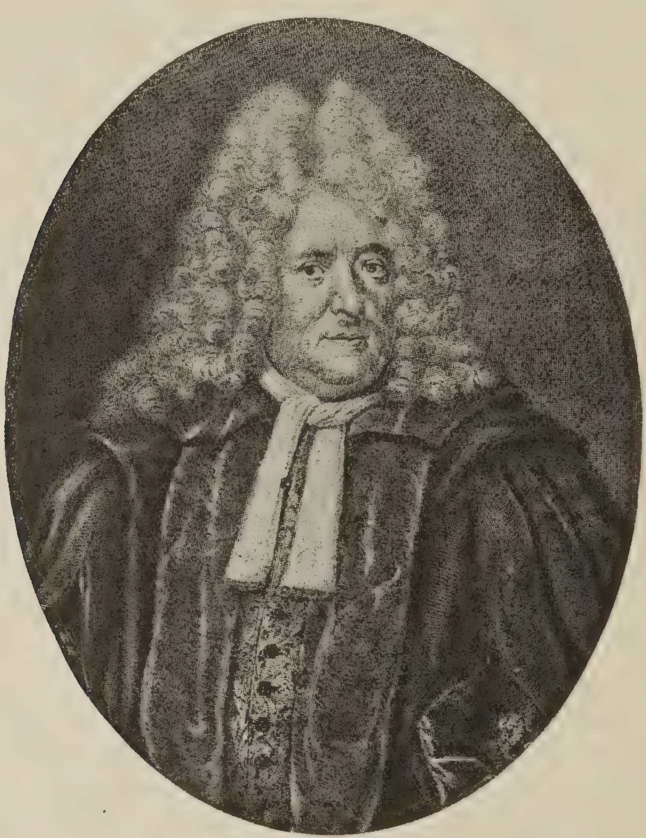
During the 16th century, young German princes attended the better gymnasiums and studied according to the usual classical programs. By the middle of the next century a great change took place; the German nobility began to imitate the elegance and ideals of the French court, and this put a widening gulf between them and their people. The new ideal of the *galant homme* arose, and necessitated a new type of education.

After the middle of the 17th century the German princes established *knightly academies* (*Ritteracademien*) in which to train their boys. These institutions were attended by the nobility in preference to the gymnasiums and the universities. The objectives of these new institutions were: (1) to train in courtly manners; (2) to prepare for military service; and (3) to prepare for statecraft and administrative work. In addition to courtly manners, French, poetry, dancing, drawing, painting, and music were taught. As a preparation for military service, riding, fencing, ball play, hunting, military activities, and physical culture were studied. Attention was given also to many of the realistic studies: geography, history, technology (especially in relation to fortifications and war), genealogy, and heraldry. Greek and Hebrew were abandoned, and the study of Latin was decreased. After the development of the modern gymnasiums, these academies ceased to exist. However, they had served a purpose for the time being, and had assisted in the transition from the old classical gymnasiums to the new.

The revitalizing of the German universities. The universities of Germany experienced no renewing impulses for more than a century after the death of Melanchthon. Their intellectual vigor, absorbed and wasted in sterile theological controversies, exhibited few signs of healthy vitality and none of genuine progress. But a new era was at hand, and it was to raise them to the greatest renown as centers of research and progress. The adaptation of the advancement of knowledge, as the main function of university scholarship, dates from the last decades of the 17th century. It was the outcome of the pietistic movement, on the one hand, and the realistic-rationalistic movement, on the other.

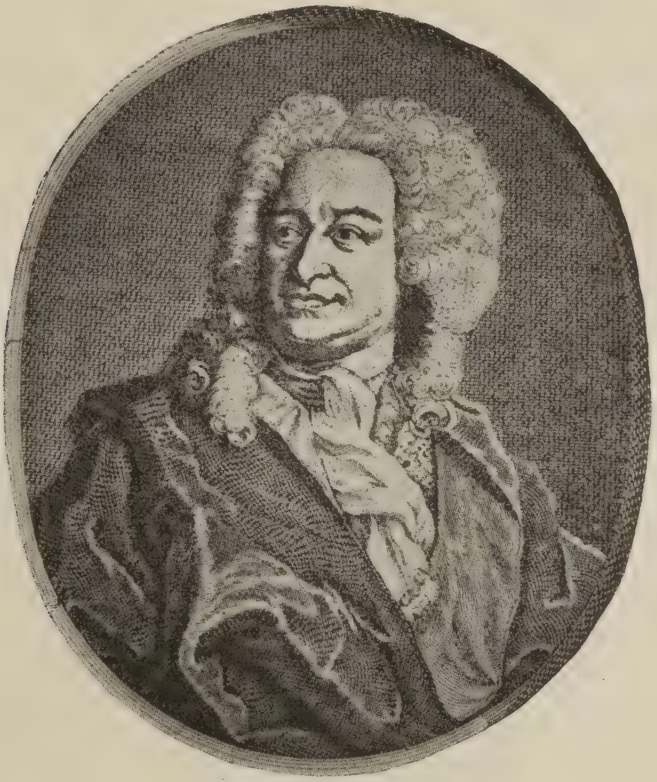
The first important result of the pietistic movement for higher education was the establishment of the University of Halle by the Elector Frederick of Brandenburg. The only university that he had at this time in his scattered domains was the far-distant one at Königsberg, in East Prussia. The Universities of Saxony, Erfurt, and Leipzig showed themselves so hostile to progressive educational movements, and especially to Pietism, that Frederick, who was strongly in favor of pietistic doctrines, felt obliged to establish a new foundation to teach the new point of view. As a result, Halle, founded in 1694, may justly claim to be the first modern university. Here, the new religious spirit combined with the yearning for free inquiry put an end to formalism, traditionalism, and subservience to authority, so far as German universities were concerned.

Among the first and most celebrated members of the faculty were: Christian Thomasius, disciple of Grotius and Pufendorf, professor of law; Christian Wolff, disciple of Leibnitz, professor of philosophy and mathematics; and August Hermann Francke, professor of oriental languages and religion. Halle opened with over seven hundred students, and soon overshadowed its more conservative rivals. Supported by Leibnitz, the greatest German scholar of the age, the institution boldly assailed the methods, aims, and materials of university instruction. The first far-reaching innovation was the use of the German language. Thomasius and Wolff contended that the lack of progress in science and philosophy was due to the pedantic adherence to Latin as the medium of expression. Even more radical was their disregard of the ancient authorities. When all other university professors throughout Europe were still the slaves of Aristotelianism, the professors of Halle refused to bow the knee. They were among those few in the scholastic world who possessed some of the audacity of Peter Ramus, when he propounded for his master's examination the thesis, "All that Aristotle has said is false."



Christian Thomasius.

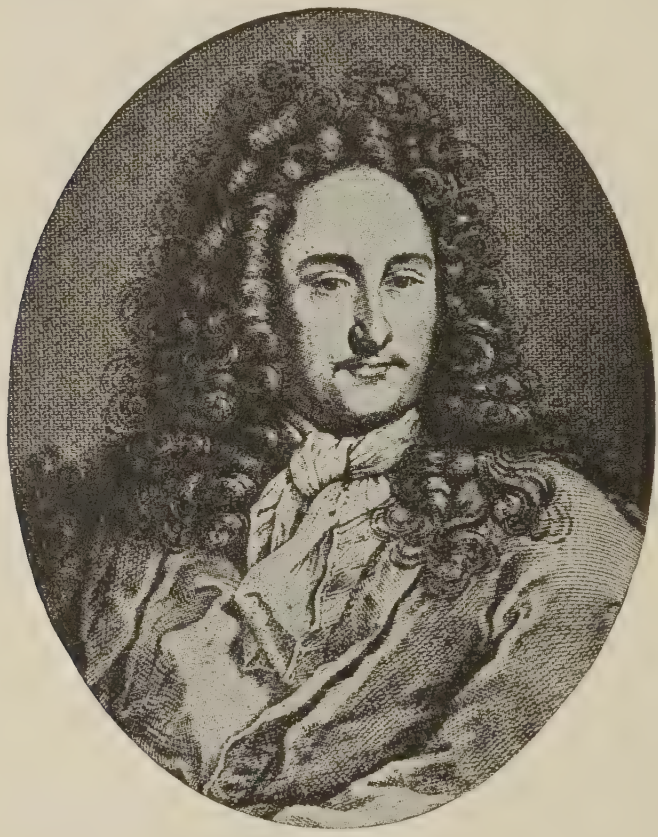
One perceives that here began the warfare, so far as the universities were concerned, between the old principle of authoritative teaching, which had hitherto controlled both subject matter and method of higher instruction, and the new principle of free investigation. According to the old view, it is the task of the academic teacher to hand on the tradition of an inherited and canonical truth; according to the new view, his task is to seek the truth through his own investigations, and to lead his students to do the same. Independent thought is the right and duty of every member of the university. The new principle was well expressed in a memorial address delivered at Halle by Professor Grundling, in 1711, when he discussed the question, "What is the task of the university?" Grundling answered:



Christian Wolff.

> To lead to wisdom, *i. e.*, to the ability to distinguish the true and the false; but this is impossible, if there be any limits imposed upon research.

He then proceeded to discuss this question: "Has a man the right to compel another by threat of punishment to accept an opinion which he himself holds to be true?" Grundling denied it. By natural right and expediency, coercion must be rejected. There is nothing so practical as freedom of teaching and writing. Through these, all intellectual powers are called forth; all sciences come to their fruitage; and art, riches, and population increases. However, someone might



LEIBNITZ.

object, freedom is indeed good, but not license. Grundling replied:[32]

> Has ever anything new been sought, without the reproach of subjectiveness and of licentiousness being brought against it? . . . Therefore, in these things coercion is above all else an evil; instruct, admonish, request; if they hear, it is well; if not, learn to bear it.

Thomasius, following Grotius and Pufendorf, based law upon the nature of man; Wolff sought in reason the foundations of philosophy; and Francke relied on the inner light for religious life. They all agreed in abandoning the old policy of teaching authoritative texts, and began to offer courses along the new lines. Halle quickly rose to fame, and other universities in Germany gradually accepted the new order.

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CHAPTER X

DEVELOPMENT OF CATHOLIC EDUCATION IN THE SEVENTEENTH CENTURY

1. Teaching Orders

Education in France during the 17th century was almost wholly in the hands of the teaching orders of the Catholic Church. Huguenot academies and other schools were subject to measures so repressive that they soon declined as an educational force. Teachers of French elementary schools were supervised by diocesan officials; efforts were made to maintain parish schools; and it was usual for municipalities to entrust their secondary schools to teaching orders. In the 16th century the University of Paris practically controlled secondary education in France, but during the next century the teaching orders became so prominent that the history of the development of French education in the 17th century must be written with special reference to them.

I. THE ORATORY

The *Oratory of France* is notable among 17th-century teaching orders for the innovations which it introduced into the course of study and methods of teaching, and for the number of exceedingly able men in its membership. It was founded, in 1611, by the eminent French cleric Cardinal de Bérulle. There had been established during the 16th century an Italian order called the *Oratory,* which had for its object the improvement of the clergy. De Bérulle, who was much concerned over the condition of the parish priests of France, organized the French Oratory principally to conduct retreats and seminaries, and so to improve the discipline and scholarship of the French clergy. Members of the Oratory took no vows save those of the priesthood and were subject to the French bishops. While the order was Gallican, it was devoutly Catholic. The Oratory grew in numbers and influence with great rapidity. Although its principal work was the education of candidates for the priesthood, not only ecclesiastical authorities but also municipal powers and the King of France thrust the work of general education upon it. By the middle of the century it had colleges in all parts of France, the most important of which was that of Juilly, an academy for the training of French nobles. The Oratory undertook this national task at the wish of the King of France, whose royal lilies were joined with the insignia of the Oratory to make up the coat of arms of the college.

The aim of the Oratory was religious. Secular authors were studied as an aid to religion. Father Thomassin, an eminent Humanist of the order, wrote extensive treatises in which he endeavored to show that the elements of Christianity are contained in the pagan writers of ancient Greece and Rome. Malebranche, the greatest philosopher of the order, attempted to develop a thoroughly orthodox, philosophical system on a Cartesian basis. The spirit of the Oratory was, however, not narrow, and its leaders developed an education that might be considered liberal for its day. Influenced by Descartes, the Oratorians taught, with conspicuous success, mathematics, physics, and the natural sciences. History, ancient and modern, had a prominent place in their course of study, and it was taught through the vernacular. Geography was taught in connection with history, and maps were used. French was taught, and the use of Latin was not made obligatory as the medium of instruction until the fourth year of school work, and even above that level it was not required for the teaching of history. Latin, Greek, and Hebrew were studied, but were approached through the vernacular. Historical and scientific methods were regarded as of more account than form. Scientific curiosity was, within limits, encouraged. The athletic and polite accomplishments, riding, music, and dancing, had places in the course at Juilly, but dramatics did not find favor.

The discipline in the schools of the Oratory was based upon the close relation established between master and pupil. It was mild but firm. A student had all, or almost all, of his classes under one master. The young teacher began his work with the lowest class; teaching some classes for one year and others for two, he worked upward, in about twelve years, through all the grades. He then was assigned to administrative or other non-teaching duties.

The chief significance of the Oratory is due to the liberalism of the order, to the use of the vernacular as the medium of instruction, and to the prominence of the realistic studies, such as the sciences, mathematics, and history, in its curriculum.

II. The Port Royalists

The pedagogical principles of Ramus and the philosophical method of Descartes were, about the middle of the 17th century, employed in education by a group of religious teachers and writers known, from the place in which they lived, as the *Port Royalists*. Port Royal was located near Paris, and was from the early 13th century until very recently the site of a convent. The leader of this religious community was Jean Duvergier de Hauranne, commonly called from the name of the monastery of which he was abbot, Saint Cyran. Associated with him was his life-long friend, the theologian Cornelis Jansen, who had developed a system of theology based upon the doctrines of Saint Augustine. The chief doctrines of this system were those of predestination and of the corruption of human nature. From these doctrines Saint Cyran and Jansen developed in France a religious movement known as *Jansenism.*

The Jansenists were interested in combatting the Calvinists, who had attacked the Catholic Church by pointing out abuses in it. The Jansenists attempted to meet the attacks of the Protestants by correcting these abuses, and, in doing so, fairly equalled the Calvinists in denouncing certain practices of the clergy. This activity excited the opposition of the majority of the Roman Catholic hierarchy and especially that of the Jesuits. Both the Roman hierarchy and the French Government condemned certain features of Jansenism; and the Port Royal community, the center of the Jansenist movement in France, was dispersed in 1661, and the schools conducted by it were closed. With Saint Cyran were associated a number of notable teachers and scholars. Among these were: Arnauld, theologian; Lancelot, teacher and reformer of grammar; and Nicole, writer on logic and morals. These men, together with their colleagues, produced a considerable number of textbooks and also some treatises on the theory of education. Many of these works were written after their schools had been closed.

The Little Schools of Port Royal. Saint Cyran regarded teaching as of the utmost importance to the state, the family, and the church. Right education, he taught, is "the one thing needful," for, if that be attended to, most problems are solved. While in prison, for his heretical views, he encouraged the formation of schools at Port Royal. Out of these efforts grew the famous *Little Schools of Port Royal,* which were not fully organized until 1646 and which were closed by royal decree in 1661. These institutions were Latin schools for training leaders for church and state. They were called Little Schools because they took but few pupils: the schools for boys had usually about twenty-five students, and there were never in residence in one institution at one time more than fifty pupils.

Aim of education; control of pupils. The aim of Port Royal education was determined by the religious character and beliefs of the community. The Jansenists believed that, since human nature is totally corrupt, it is the great function of education to transform this corrupt nature into one which is pure and holy; and that the great aim of higher schooling is to develop strong Christian leaders who will be able to employ, in the work of saving souls, all the resources of literature, science, and eloquence. The moral and spiritual welfare of pupils is ever uppermost. Books should be chosen that will fortify the morals of boys as well as improve their French. De Saci, one of their chief teachers, wrote: [1]

> The chief end of education should be to save them [the pupils] and ourselves [the teachers] with them.

Saint Cyran warned children against study for purposes of selfish advancement, and urged them to study only to be obedient and to fit themselves for the service of God. Knowledge, he thought, does the young, for the most part, more harm than good.

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[1] Cadet, Felix, *Port Royal Education,* p. 93. New York, Scribner, 1898.

There are, however, certain aims of education that are secondary to the supreme religious aim. The individual who is to be useful in God's service must be developed; his ability to speak, to think, and to act must all be cultivated. Hence, Port Royal education tended, on the whole, to employ and, at the same time, to advance science and literature.

The ascetic outlook of the Port Royalists determined their methods of control of the pupils. They demanded complete control of pupils committed to the schools, and permitted their pupils but little communication with the outside world, that little being rigidly supervised. No more than six boys were assigned to a master, and these slept in his room at night and were never out of his sight during the day. Saint Cyran exhorted his teachers to "speak little, bear with much, and pray more" in their dealings with pupils. The maxim of control of the Port Royalists was summed up in the phrase, "Pray rather than scold" (*Plus prier que crier*). Regarding human nature as completely corrupt and lost, these teachers were moved not to severity but to compassion. In controlling pupils the rod was to be used sparingly and in extreme cases only. Pupils who were a bad influence were dismissed. The discipline of the Little Schools was gentle; teachers controlled their pupils by persuasion, by example, and by kind compulsion.

Port Royal curriculum. As Christian Humanists, the Port Royalists made religious books and carefully chosen classics the staples of their curriculum. Pupils were taught to read French, Latin, and Greek with understanding, and to write and speak French and Latin correctly. Every effort was made to have them use these languages with appreciation, beauty, and distinction. Pupils were thoroughly grounded in French before they were allowed to take up the ancient languages, translations of the classics into French being used as readers. In the advanced stages of their work, more emphasis was placed upon translation of the Latin and Greek into French than upon the "making" of correct Latin or Greek. The writing of Latin verses was not highly regarded as a school exercise; but oral exercises, reading aloud and discussing the style and content of ancient authors, were much used.

Mathematics and the rising sciences also found places in the course of study. There was much reading of history, both ancient and modern; and emphasis was placed upon geography. Grammars of the French and Spanish languages were prepared by Lancelot. The Port Royalists' textbook in logic represented an advance upon the work of Ramus; it reflected clearly the method of Descartes. Nicole's discussion of the reasons for fallacious judgments resembled, undeniably, Bacon's treatment of the same topic.

As 17th-century Humanists, the Port Royalists did not make any great additions to the content of the curriculum. Their inclusion of considerable study of French constitutes their most important contribution in this particular direction. Although they added little of new content to the course of study, they affected it profoundly by the methods which they introduced. They employed but few rules, and these were illustrated by a great number of examples. The Port Royalist teachers were careful to proceed from the known to the unknown; and they attempted to employ materials interesting to children. A part of each day was devoted to play.

Port Royal method. Felix Cadet writes: [2]

> The greatest merit of Port Royal is to have introduced Cartesianism into teaching.

It is the essence of the Cartesian method to proceed from that which cannot be doubted to the unknown. A sure foundation for instruction, the Port Royalists held, can be laid only by giving clear impressions through the senses. Nicole explained: [3]

> As the intelligence of children depends very much on the senses, instruction must, as far as possible, be given through the senses, and be made to enter, not through the mind alone, but through the eye, there being no other sense that makes a more vivid impression on the mind, and forms more clear and distinct ideas.

He further showed how, by the use of objects, pictures, and maps, the teaching of geography, history, and anatomy can be improved.

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[2] *Ibid.*, p. 30.

[3] *Ibid.*, p. 172.

Lancelot discussed the importance of impressing upon children the correct sound of words and the component parts of words, before any effort is made to have pupils recognize or pronounce them. The Port Royalists saw that much of the difficulty of teaching children to read and spell arises from teaching them the names, not the sounds, of the letters. It was therefore proposed "to teach children to know the letters only by the names of their real pronunciation, to name them only by natural sounds." Then, having laid through the senses a sure foundation of knowledge, the teacher must exercise the greatest care to see that children understand all they do and say. He must take precautions to make explanations full and lucid; he must question pupils, to assure himself that they understand what they have been told, and he is to encourage questions from his pupils. Students are to exercise their reasoning powers in discussing the content and style of the authors studied. The Port Royalists believed that the cultivation of the power of reason must be one of the chief aims of education. In the cultivation of the rational nature, they were in accord with the philosophy of Descartes.

The contribution of Port Royal. In the development of French education, the Port Royalists have an importance that is out of all proportion to the size of their order and the length of time that their schools operated. Their influence is due to the improvements which they effected in the teaching of languages and of logic. They made French the medium of instruction in secondary instruction, and they applied Cartesian principles of thought in the organization of the course of study and in methods of instruction. Within less than half a century after the close of the Little Schools, these reforms were widely embodied in French educational practice.

2. Catholic Efforts to Educate the Poor

Charity school movement in Catholic lands. Popular education was generally neglected in Catholic Europe during the 16th and 17th centuries. Stipends and scholarships still kept open, for a limited number of poor boys, the road for advancement in the church, and occasionally prelates and other persons of wealth supported poor boys of promise at school or university. Such opportunities, however, made no real impression upon the condition of the laboring poor; they were open, for the most part, only to poor members of influential families. There was no education to supply the needs of the laboring classes. There were guilds of writing masters which furnished training for persons entering the lower ranks of business, but there were no schools planned to meet the specific needs of the masses.

The motives which led, in the 17th century, to the initiation of a movement to develop a curriculum that would refine the manners, tastes, and morals of the poor, and render them more competent, were principally charitable and religious. It was not until the late 18th century, when the movement toward popular schools was well advanced, that political democracy and the scientific study of society were to become factors in the development of popular schools.

There were in France in the 17th century a large number of parochial schools and isolated charity schools of elementary grade. These institutions were, in general, poorly supported and badly taught. Since they were not organized into a system, there were no adequate provisions for examining or for training teachers. Efforts to improve the quality of instruction in the elementary schools were, however, not altogether lacking. In 1655, there appeared a manual, *The Parish School, or the Manner of Properly Instructing Children in the Little Schools,*[4] the nature of which is sufficiently indicated by its title. In 1598, St. Peter Fourier founded an order, devoted to the education of poor girls, called the *Sisters of Notre Dame.* Father Démia, a priest of Lyons, founded, in 1666, the *Congregation of St. Charles,* an order devoted to the education of poor children in his city. This order received the special approbation of the ecclesiastical authorities, and also the support of the merchants of Lyons. Démia followed, in the main, the Catholic practice of his time, but introduced one significant innovation: the establishment of a sort of seminary for the training of teachers.

Brothers of the Christian Schools. With the organization in 1684, by Jean-Baptiste de La Salle, of the *Institute of the*

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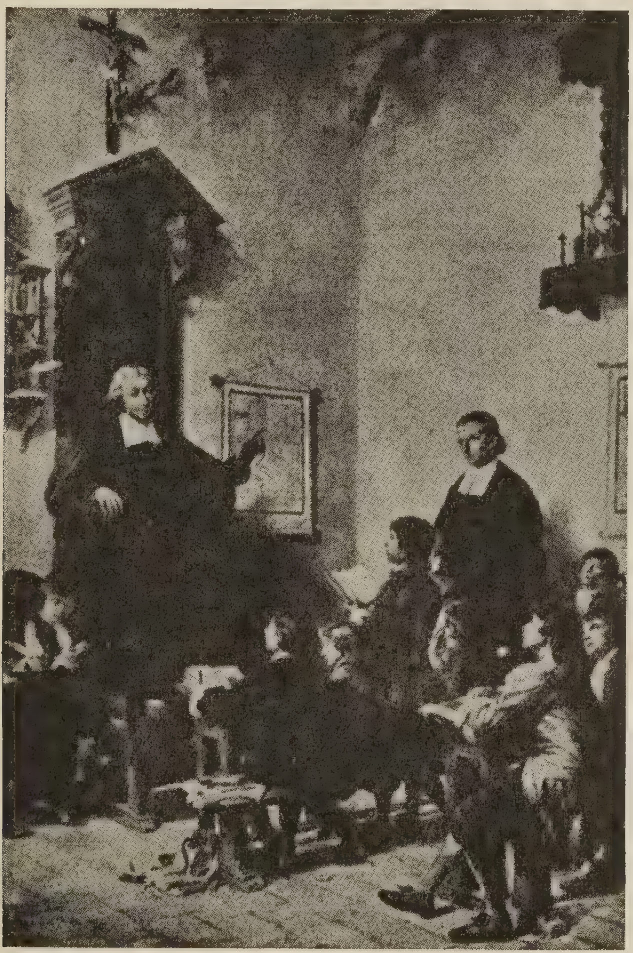
[4] Here the phrase *Little Schools* refers to elementary schools. The Little Schools of Port Royal were so styled because they took but few pupils.

Brothers of the Christian Schools, the basis was laid for the establishment of a system of charity schools that was subsequently to cover France, and to continue to the present day.



Jean-Baptiste de La Salle, Founder of the Brothers of the Christian Schools, Instructing a Class.

The Brothers are not priests, but since 1694 have taken perpetual vows. Although the order has conducted some higher institutions, its special service has been the gratuitous instruction of the poor in elementary schools.

In these elementary schools of the Brothers of the Christian Schools, reading, writing, arithmetic, manners, morals, catechism, and religious observances were taught. Discipline in the early years of the order was repressive and severe, but later it became more humane. Although methods of school management and of instruction of the Brothers in the 18th century had little in common with those of modern schools, they did anticipate some features, good and bad, of later practice. Pupils were divided into weakest, mediocre, and most capable groups; and teaching in classes was practiced. Writing lessons of a very practical sort were devised; pupils were required to compose letters, bills, receipts, and the like. Monitors taught the younger pupils; and a course of study for elementary schools was created. In 1685 the Brothers established, at Reims, the first normal school in Europe for the training of teachers.

The order extended its work steadily. Its permanent organization was effected in 1717, and it received pontifical sanction eight years later. Its schools had five thousand pupils at the beginning of the 18th century; this number increased to twenty-six thousand in 1790. Driven from France by the Legislative Assembly in 1792, the order was kept alive at Rome and, in 1802, resumed its work in France.

3. The Education of Girls

French girls of the 17th century were educated by various agencies. There were elementary schools in the parishes, as well as those of the teaching orders, conducted for them; but elementary schools for girls were not so numerous nor so well staffed as were those for boys. Girls of noble families were usually taught at home by governesses or tutors. House work and management formed part of their training. The chief agencies for the higher instruction of girls of the upper and middle classes were the convents, which trained both those girls who aspired to enter a religious order, and those who, after a few years of cloistered life, returned to their families. The 17th century witnessed a great revival of women's education in the Catholic Church. Many teaching orders of women were founded. The eccesiastical authorities favored confining the teaching activities of women to enclosed communities; but orders not vowed to cloistration were formed and achieved unusual prominence. This movement worked a definite advance in the liberalization of women's education in France.

Ursulines. The *Order of Ursulines*, which began its work in France during the last decade of the 16th century, may be taken as an example of the modern Catholic teaching order. It has been from the beginning devoted to the education of girls. Its numerous schools are to be found in both hemispheres. The Ursuline school at Quebec was founded in 1639, and that at New Orleans, in 1727. The aims of Ursuline schools are: to train girls to be sincere and devout Christians; to prepare those who expect to enter a religious order, for the types of work they are to do; and to fit other girls for careers as wives and mothers. The society founded by Anne de Xaintonge, which adhered to the Ursuline Order, formulated its objectives as follows:[5]

> . . . to instruct girls, servants, and poor women in the principles of religion and the way of living according to these principles; and in order to do this more effectively and to make them the more disposed to receive our instruction, we shall teach them reading, writing, domestic work, in a word everything which girls ought to know in order to be useful in a family, and we shall teach them the great art of working out their salvation by performing properly the most trivial duties of their station.

Conventual schools did little to develop the intellectual interests of their pupils. Discipline in these schools was firm but gentle. The fact that teachers were members of disciplined orders secured uniformity of practice, and rendered it unlikely that children would be entrusted to the care of persons of uncertain temper or character.

Girls' education at Port Royal. The education of girls at Port Royal was not nearly so liberal as that offered in the schools for boys. Pupils and teachers were rigidly sequestered. The rule of silence was imposed, and no light or useless talk was allowed. Pupils were supervised with a strictness that never permitted two of them to be alone together. The girls' school at Port Royal is of interest merely as showing the extreme of repression to which girls were subjected during the 17th century. One who knows the treatise of Jacqueline Pascal, *Rules for the Pupils of Port Royal,* is able to appreciate the liberality of the views of Fénelon on female education.

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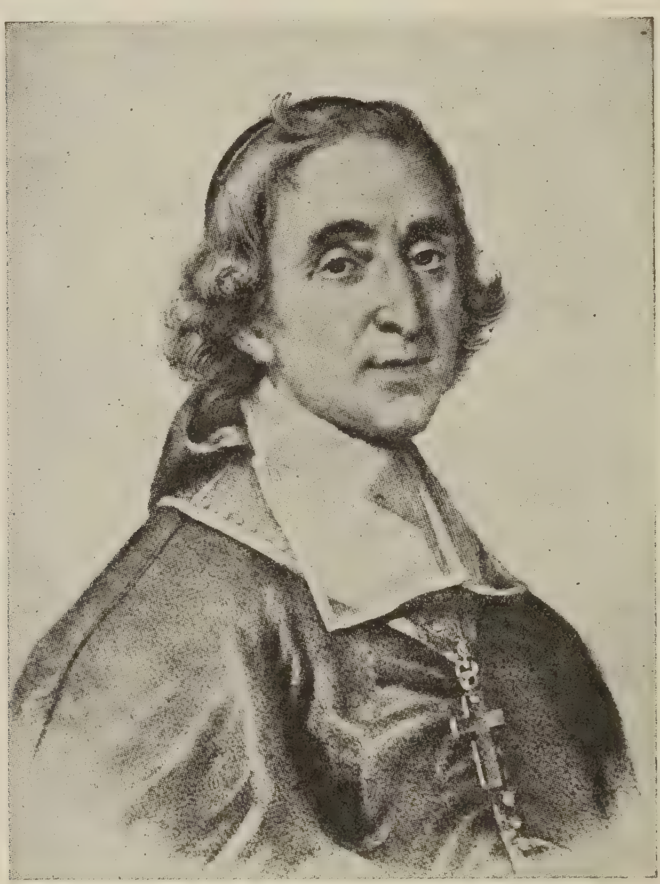
[5] Quoted by Barnard, H. C., *The French Tradition in Education*, p. 64. Cambridge, University Press, 1922.



FÉNELON.

Fénelon. The most important French treatise written in the 17th century was *On the Education of Girls,* by François de Salignac de La Mothe Fénelon, Archbishop of Cambrai. He was tutor to the Duke of Burgundy, who was the grandson of Louis XIV and heir apparent to the throne of France. Fénelon wrote for his royal pupils: *Fables,* a series of tales each carrying a moral; *Dialogues of the Dead,* a book in which history is taught by means of imaginary conversations between the persons who made it; and *Télémaque,* a political novel designed to keep before the Duke of Burgundy the doctrine that kings exist for the good of their people, and not the people, for the good of their kings. *Télémaque* has been one of the most widely read novels in the French language. It enjoyed universal popularity in France, and was long a favorite book for reading in the French classes of English and American schools.

On the Education of Girls was written in 1680 for the guidance of the Duchess de Beauvillier in educating her children, and was first published in 1687. It discusses the education of the daughters of wealthy families. Much, however, of what Fénelon said is also applicable to the education of boys. The education of women as of men, Fénelon believed, should be connected with their careers, and the vocation of a woman is to be the mother of a family. The profession of home making is of great public importance; and girls should be prepared for it by education, as boys are prepared for the professions. Fénelon did not at all agree with the doctrine common at the time that the less a woman knows the better for her. He believed girls should learn to read and write correctly. They should read, especially in the fields of ancient and modern history, in order to extend their knowledge and insight. They should be trained to manage both households and estates. Their training for their duties as owners of estates and mistresses of households was varied and extensive. It included considerable training in law, in the keeping of accounts, in the manufacture of articles used in the house and on the estate, in making necessary purchases and in marketing agricultural products, in the management of servants, and in the actual performance of household tasks. Fénelon did not encourage the study of foreign languages, though he thought that girls of superior judgment might study Latin to advantage.

Fénelon recognized the importance of education during the earliest years. The health, strength, and emotional attitudes of very young children should be diligently cared for. Children should not be repressed, but allowed to grow freely. They should learn to be simple, modest, direct, affectionate, and honest. Indirect instruction is more effective than direct; lessons should not be any more formal than necessary. "Teach with animation: that is best learned which is learned with pleasure." Fénelon preferred the home to the convent as a place for the education of girls. In convents, girls were cut off from the world, and were certain to be ignorant of it. If the convent was worldly, the inmates exaggerated the advantages of the world without understanding its problems; and in a convent under rigid rule, the realities of life were feared.

Fénelon's views exercised an enormous influence on the education of girls. For more than a hundred years after his death, virtually all educated persons thought as he did: that the minds of girls are different from those of boys, and require a different type of cultivation. They had reached the conclusion that women should be educated, but not in the same way as men.

Saint Cyr. Madame de Maintenon, governess to his children and second wife of Louis XIV, founded a small school for girls. Her educational activity developed rapidly; in 1686, with the financial support and active interest of the king, she established Saint Cyr, a boarding school for two hundred and fifty girls of noble families. She became devoted to the institution. From its founding until 1717, she visited it almost daily and interested herself in every phase of its life. She observed, supervised, and wrote detailed letters, as well as essays on educational policies.

The aim of Saint Cyr was to prepare girls for what Madame de Maintenon regarded as woman's great vocation, a career as mother of a family. Girls who felt a strong calling for religious life were prepared to take vows, but this was not the real purpose of Saint Cyr. The program of the school was at first liberal. Madame de Maintenon wrote: "I wished the girls to be witty, high spirited, and trained to think."[6] She disliked the practices of convents, and the school was not a convent until 1692, when, discouraged by the results of her policy, Madame de Maintenon revised its organization. From 1686 until 1692, the courtly type of education was prominent at Saint Cyr. Racine wrote two plays, *Esther* and *Athalie,* for the school. The presentations of these plays were attended by the royal court, with the French King himself at its head. The presentation of *Esther* was received with the most flattering approval; but Madame de Maintenon felt that the girls were spoiled by notice.

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[6] Compayré, G., *The History of Pedagogy,* p. 220. Translated by W. H. Payne. Boston, D. C. Heath, 1905.

Accordingly she transformed Saint Cyr into a convent, and organized the Order of Saint Augustine to have charge of it. Intellectual development was subordinated to practical training. Reading was rigidly restricted and, for the most part, confined to religious works. Ancient history was ruled out of the course, as were foreign languages. Geography and modern history were confined to the most superficial outlines. Composition had no place in the curriculum. Nothing, in the view of Madame de Maintenon, was more detestable than a "learned lady." Girls were not encouraged to spell and write correctly, lest they appear pedantic. They were to be told of the fashionable world, but they were closely confined in the school and told that the world was a dreadful place. Students were allowed to receive but four visits from their relatives each year, and these were to be of only half an hour's length each and made in the presence of a teacher. Letters to parents conformed to models prepared by Madame de Maintenon. If girls were not to be learned, neither were they to be too pious. A woman's religion, Madame de Maintenon thought, should be evident in her obedience to her husband, and in the discharge of her duties as a wife and mother. Girls were trained to do household work and to manage households.

There are, however, brighter features of the picture. Discipline was, for the 17th century, gentle. Teachers were urged to conduct recitations in an animated fashion, and to encourage gay and lively recreations.

Saint Cyr exercised an important influence on the development of girls' education. It continued until 1793, and was the most prominent school for girls in France.[7] Since at this time there were almost no boarding schools for girls in England or in America, many English and some American girls were sent to French convents for a part of their schooling. When, in the late 18th century, boarding schools began to be founded in considerable numbers in England and the United States, the conventual ideal of girls' education influenced their practices. Compayré regards the work of Madame de Maintenon as "a first attempt at enfranchisement in the education of women." When one remembers that her efforts were directed toward the education of a little handful of girls of high social position, and compares them with courtly education and with the efforts of Vives, Sir Thomas More, and Fénelon, this estimate appears to place too high a valuation upon Saint Cyr. The school was not in the main current of educational thought and practice. Although its influence was very great, it rather retarded than aided the advancement of women.

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[7] Herbert, Curé of Versailles, said: "All the convents look to Saint Cyr: they will follow the example set there." See Hodgson, Geraldine, *Studies in French Education,* Cambridge, University Press, 1908.

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CHAPTER XI

PROGRESS AND PROBLEMS OF THE SEVENTEENTH CENTURY

1. Great Cultural and Philosophic Changes

The latter part of the 17th century and the first half of the 18th may be most adequately described as the beginning of the transition to the era of present-day society and education. The world had grown weary of the deadening routine and non-progressiveness of Humanism. For various reasons, scientific realism had not yet greatly influenced life and thought, so far as the schools were concerned. Moreover, political turmoil, due chiefly to clashing religious interests, had greatly retarded the progress of culture. Three outstanding conflicts challenged the best thinkers of the time and produced bitter controversies. These conflicting movements were: (1) religious toleration for dissenting sects versus uniformitarianism by means of coercion; (2) the rising spirit of political democracy versus autocracy; (3) the philosophic controversy with regard to the nature of man, and the origin and nature of knowledge.

Religious toleration the last resort. The inhuman wars of the 17th century bled the peoples of northern Europe to exhaustion, and practically put an end to the progress of culture. Finding it impossible to annihilate each other completely, Catholic and Protestant settled down to a truce in which each was to have exclusive jurisdiction in his own domain. After the revocation of the Edict of Nantes in 1685, France remained Catholic and the Huguenots were well-nigh exterminated. Throughout France, education was in the hands of the Jesuits and of such minor orders as met with their approval. Germany, where the religious struggle had touched the utmost degree of inhuman cruelty, was still divided: Protestantism was dominant in the northern principalities; and Catholicism, in the southern. The Netherlands likewise were sharply divided: Holland was composed of Calvinists, Mennonites, and some Lutherans; Belgium remained intensely Catholic. Scotland became solidly Presbyterian, while England remained divided among Anglicans, Puritans, Presbyterians, Catholics, and several minor sects. By the Act of Toleration, passed by Parliament in 1689, the Anglican Church was kept as the established church of England, but religious freedom was granted to all Christians except Unitarians and Catholics. Even these were no longer seriously interfered with in the practice of their religious views. In every land the particular body that happened to gain the ascendancy became the established church, while other bodies were discriminated against in innumerable petty ways. The old dream of a universal church was still potent, while the idea of a purely secular state that should protect all its people alike, regardless of religious affiliation, was a fantastic notion which occurred to but few of the boldest thinkers. The principle of toleration, though not that of complete religious liberty, was, however, making progress in the Netherlands and in England, where religious life was most diversified. No one performed greater service for the cause of religious liberty than John Locke, who wrote a number of letters on toleration. In fervent language he demanded the rights of conscience.[1]

> Absolute liberty, just and true liberty, equal and impartial liberty, is the thing we stand in need of.

Psychological problems fundamental. Before education could make any substantial progress beyond the crude traditional practices of the day, it was imperative that there be a deeper knowledge of the nature of man. Such progress involved likewise a knowledge of the growth of the child, especially of his mind and moral nature. The methods of instruction in vogue, the principles of discipline, the ordering of the curriculum—in fact, every detail of education depended on a knowledge of psychology and ethics which did not exist at that time. The traditional ideas concerning the relation of soul and body did not furnish a satisfactory basis for the understanding of physical education. The theological belief in natural depravity, and the misconceptions in regard to children's emotions and spontaneous interests and the proper incentives to learning still led to numerous unsound practices. So far as the natural development of the mind was concerned, the most serious obstacle was the lack of a clear understanding of the beginnings of knowledge. The development of psychology by Descartes, Hobbes, and especially Locke led the way to the new light that was necessary for the reform of education.

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[1] Locke, John, "Letter on Toleration," in *The Works of John Locke,* Vol. VI, p. 4. London, T. Davison, 1801.

Origin and nature of knowledge. The origin of knowledge, though an abstruse inquiry, was by no means a new problem in the second half of the 17th century, but it was still unsolved. The discussion of the proper method of advancing learning, carried on so vigorously in the early part of the century, very naturally led over to the deeper inquiry as to the origin and nature of knowledge itself. The doctrine of innate ideas espoused by Descartes prevailed generally; yet it was becoming clear that the method of direct observation and experimentation described by Bacon was far more successful in advancing knowledge in certain fields. The exact nature of this problem and its educational implications must be clearly understood, for the effort to clear up this controversy did more in the end than any other one thing to facilitate the progress of educational theory and practice.

The doctrine of innate ideas had its origin in the philosophy of Plato. During the Middle Ages, this theory, though imperfectly understood, formed a vital union with scholastic theology and, therefore, enjoyed the sanction of divine authority. It received renewed support, as well as clarification, in the philosophy of Descartes, who took as the ideal of knowledge the clear and incontrovertible principles and conclusions of geometric reasoning. The certainty, clearness, and simplicity of geometry became henceforth the model for all fields of learning.

To understand the doctrine of innate ideas, one may consider the well-known proposition that the radii of a circle are all equal. This will be immediately assented to and clearly discerned by everyone who perceives what is meant by a circle and its radii. If any single radius were shorter or larger than any other, at that point it would cause an imperfection in the circle. Now, the interesting feature of this proposition lies in the fact that no human being can possibly see or otherwise have an experience of a perfect circle through his sense organs.

The axioms, principles, and conclusions of mathematics generally are derived directly from the rational intellect and not obtained through the sense organs. They were, accordingly, considered by philosophers to be inborn. Similarly, a large portion of the knowledge of reality, ethics, religion—in fact, the foundations of all genuine science—were original possessions of the human soul and were not acquired by sensory experience. This view accorded harmoniously with many of the early religious doctrines, such as human depravity, and was staunchly defended by all the supporters of authority in state and church.

But, on the other side, this view was confronted by remarkable success in the expansion of knowledge that resulted from the use of the empirical method. For a long time the advocates of the sensory origin of knowledge—such as Vives, Mulcaster, Bacon, and Comenius—had been asserting that only through the five senses could man receive a knowledge of the world about him. It remained for a dispassionate Englishman, John Locke, to make the investigation which was to destroy forever in its older form the theory of innate ideas and, by so doing, to give the science of education a fresh beginning.

Growth of political liberty and autocracy. From the 16th to the 18th century, western Europe experienced, as concurrent movements, the growth of political liberty in theory of government and the tightening grip of autocracy in practice. In the closing decades of the 15th century, the cantons of Switzerland in dramatic style threw off the galling Austrian yoke and set up oligarchical republics. Encouraged by this success of the indomitable Swiss and by the writings of Luther which they did not clearly comprehend, the peasants of the Rhineland broke into rebellion against their overlords. They were speedily and ruthlessly suppressed, and all further hopes of the German peasantry to obtain more favorable conditions of life vanished for over two centuries.

A very different condition was found in the provinces of the Netherlands, where there had always remained some of the traditional independence of the ancient Teutonic tribes. Here, at the close of the bloody contest with their Spanish sovereign, the Dutch set up a republic. Owing to internal religious strife, this experiment in popular government was short-lived, as was also the Puritan Commonwealth, across the North Sea, in England. These abortive attempts at democratic rule revealed the incapacity of even the higher middle class to carry on a stable government. Yet, despite their subsequent reënthronement, the nobility in these countries never again reached a high degree of autocratic sovereignty. The gentry and middle class retained through their parliaments a firm hold upon government. Especially in Great Britain was the power of the monarch limited, and from the end of the 17th century the English people enjoyed a greater degree of self-government, free speech, and religious liberty than any other people. But on the Continent, with the exceptions of Holland and Switzerland, there was an irresistible movement in the direction of absolutism. This development reached its climax in the 18th century and led directly to the French Revolution.

Meanwhile the subject of political organization became a matter for heated discussion and differences of view. Hobbes, in England, and Bossuet, in France, may be cited as leaders of the party that believed in a strong power centralized in the person of the sovereign. This was the traditional view: the divine right of kings to rule, and the divine duty of subjects to obey. There was, however, a new aspect to this theory of government: the attempt to show that absolute sovereignty can be traced to a natural as well as a divine origin.

The political rights of the individual were set forth by Grotius, the great Dutch jurist; by John Milton, the English poet; and by Pufendorf, the German professor of "the law of nature and nations." Milton advocated representative government. His *Areopagitica,* one of the noblest vindications of free thought and free speech ever penned, gave the system of licensing and censoring the press in England its death blow.

To find the basis of human government, Hobbes went back to man's original, natural condition, which, as he thought, was that of the war of each against all. In this condition men were all on a basis of equality, for they were equal in strength and intelligence. Government arose when, for the sake of security, individuals entered into an agreement called, by philosophers, a social contract. Each man agreed to the limitation of his freedom and, in return, was assured of protection for his person and security for his property.

Pufendorf took quite an opposite view in his celebrated work *Of the Law of Nature and Nations.* He scouted the idea that men are equal in strength or intelligence. He believed in equality, but it was the equality of right. He defined the term in this way:[2]

> This *Equality* we may call an *Equality of Right;* the Principle from which it springs is this, that the Obligation to a social Life *equally* binds all Men, in as much as it is the inseparable Companion of Human Nature, considered simply as *such.*

According to this view, government is based upon the fact that man is naturally a social being. The basis of law and of all human institutions is found in his constitution as a rational being. All are born free and equal in natural rights and in the making of contracts. Government is due to a voluntary contract for mutual advantages of protection, of the security and exchange of goods, and of other benefits. Bodin, in France; Christian Wolff, in Germany; and John Locke, in England, were in agreement with this position.

John Locke, the English philosopher, took a profound interest in the subject of political liberty. It is possible that, as a schoolboy, he may have witnessed the regicide of Charles I. The question of the justification of this extreme measure in dealing with a domineering sovereign long remained a burning question debated by everyone. The beheading of the king was indicative of the limitation which the opposition placed upon the tyrannical behavior of a sovereign, and of what it considered a criminal violation of the absolute right of subjects. Locke wrote two treatises on civil government and also *The Fundamental Constitutions of Carolina.* In these treatises he pleaded for the rights of the individual in the most fervent language. His declaration of the rights of the individual and of the people and the need for limiting the power of the throne was of greatest moment in shaping constitutional government in Great Britain. His political philosophy was of the greatest significance in the political renovation of France and America during the following century.

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[2] Pufendorf, S., *Of the Law of Nature and Nations,* Book III, Chap. II. Oxford, L. Lichfield, 1710.

The deepening respect for the political rights and liberties of the individual produced an increased respect for the personal worth of even the lowest ranks of men. Heretofore, personality had been a matter of position in society and of outer circumstances. The theory of personal rights and political liberties, based upon man's rational and social nature, gave a new importance to every individual. It was soon to lead further, to the deeper sense of the significance of the individual as an ethical self in a moral universe. This new attitude toward man as an ethical being with inviolable rights furnished the fundamental basis for modern education: the right of each individual, in a society of interacting units, to the development of his capacities. But before this fundamental view could become clear to the modern mind, it had to be vitalized by the passion of Rousseau, clarified by the critical Idealism of Kant, and put into practical operation by the benevolence of Pestalozzi.

2. The Increasing Use of the Vernacular Languages

Throughout western Europe during the early Middle Ages, Latin was everywhere the language of all the higher interests of civilized life: of religion, literature, philosophy, diplomacy and, to a large extent, even of commerce. The innumerable dialects of the barbarian tribes scarcely possessed the breadth of vocabulary necessary to express other than the most common, concrete ideas of practical life. However, the later period of the Middle Ages saw a profound change. From the creative genius of these various races there sprang, as if spontaneously, a wealth of literary materials—legends, popular romances, fairy stories, and heroic tales and poetry. For a time these were not written, nor were they composed to be read; rather, they were memorized and either recited or sung by wandering minstrels, troubadours and minnesingers. Princely courts, baronial manors, and the castles of the knights offered the stage and setting for the expression of these gentle arts. Out of this movement, in due process of time, came *The Cid*, the Arthurian legends, the *Chansons de Geste*, the *Nibelungenlied*, and other national epics which were committed to writing and began the higher development of the new national languages. In line with this movement, Dante (1264–1321) wrote *The Divine Comedy* in Italian instead of Latin, which he knew well.

The growth of commerce and of the reading and writing schools which sprang up during the later Middle Ages further added to the increasing use of the native tongues. Of course, no single condition was so potent in the growing popularity and importance of these languages as the invention of printing. The outburst of the great religious conflict, as well as the translation of the Scriptures into the vernacular dialects, added tremendously to the dignity of these tongues. But the greatest impulse of all came from the use of the vernacular in popular worship, in preaching, in church music, and in drama. Added to this was the practice of all Protestant communions of teaching religion in the schools by means of the catechism and the Scriptures in translation.

By the end of the 16th century the two important realms of human interest, religion and commerce, had turned completely to the use of the vernacular. Latin still dominated the schools, literature, philosophy, and diplomacy, but these, too, soon began to capitulate. However, the battle was long drawn out, and was not fully decided until the end of the 17th or the beginning of the 18th century. Francis Bacon (1561–1626), although he wrote his scientific works in English, had them translated into Latin so that they might not perish. Of the translation of his chief work, *The Advancement of Learning*, into Latin, he said: "It is a book that will live, and be a citizen of the world, as English books are not."[3] In the face of doubt and the dogged opposition of scholars and pedantic schoolmasters, the vernacular tongues continued their rapid growth in all of western Europe.

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[3] Quoted by Parker, S. C., *A Textbook in the History of Modern Elementary Education*, p. 20. Boston, Ginn, 1912.

Italy. In spite of the unyielding grip of Latin upon church and school in Catholic lands, the vernacular was rapidly growing more powerful. The Italian was the first modern language to develop literary form. Dante did not think it beneath the dignity of his theme to write *The Divine Comedy* in Italian. Petrarch, in lyric poetry, and Boccaccio, in prose, followed his example. They made the Tuscan dialect the national tongue, and thus became the founders of Italian as a literary language. Galileo, likewise, "displayed many of his celestial marvels under that clear glass of a transparent Italian style."

In the 16th and early 17th centuries, hundreds of literary academies were established in Italy for the purification of the language. The most celebrated of these was the *Accademia della Crusca,* formed in 1587. Its greatest contribution was the publication, at Venice in 1612, of the *Vocabulario della Crusca,* a dictionary of the Italian language.

Spain. In the conflict with the Moors in Spain the strengthening of the national spirit tended to advance the Castilian dialect into an instrument of national expression. Important court rulings were rendered at Valencia in the native tongue. As early as 1492, that *annus mirabilis* in human history, Antonio de Lebrija, wrote a Spanish grammar for the ladies of the court of Queen Isabella. Soon the Castilians created a literature which added to their pride in their country and language. It was a Spanish Humanist, Juan Luis Vives, who was to become "the first great humanistic advocate for the study of the vernacular as the instrument for teaching Latin." As a fourteen-year-old youth in Valencia, he had been fired with resentment at the proposal to introduce Lebrija's grammar into the curriculum, but after his years of contact with the people of the north, he completely reversed his point of view.

France. That rollicking humorist of all time, Rabelais, master of more tongues than any other man of his day, not only wrote in French but urged the use of the vernacular for learning. The leaders of Protestant education, especially Corderius and Calvin, greatly assisted the progress of the vernacular. Corderius wrote a text to teach children morals, in "pure French." Calvin advanced the cause by translating his *Institutes of Christianity* from Latin into French, and by teaching this language in his school. So rapidly had the French language evolved that, as early as 1550, Mestre could boast: [4]

> Our language is today so enriched by the study and practice of Greek and Latin that there is no science so difficult or subtile, not even high theology, that it cannot handle fully and elegantly.

A quarter of a century later, Louis Le Roy, professor at the *Collège royal,* which had been founded expressly for the cultivation of the classical languages, explained the speeches of Demosthenes in French.

Meanwhile, a number of French grammars had appeared and among them was the work of Peter Ramus, in which he made a special appeal for the study of the mother tongue. As early as 1629, the *Académie française* was established by Cardinal Richelieu as an agency to guard the purity of the French language. Its founding for such a purpose is evidence of the permanent and deep interest of the French people in developing the use of their own tongue.

Descartes, father of modern philosophy, wrote his chief work, *Discours de la Méthode* (1637), in French so that a larger number would be able to understand it. Shortly after this, the group of remarkable scholars and teachers known as the Port Royalists undertook to use the native tongue as the means of education in their Little Schools. Like contemporary innovators in Germany and England, they reacted against the futility of teaching Latin before the native tongue. As Sainte-Beuve said: "It is to compel unfortunate children to deal with the unintelligible in order to proceed toward the unknown." To escape this evil, the Port Royalists composed texts in French, and by their translations of the classics into their own tongue, gave a new impetus to the development of French literature.

England. During the latter half of the 16th century, the vernacular found strong backing in England. Mulcaster wrote his treatises purposely in English, and urged that the mother tongue be used in the schools before Latin was learned.

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[4] Kandel, I. L., *History of Secondary Education,* p. 153. Boston, Houghton Mifflin, 1930.

Undoubtedly Ratich was influenced by Mulcaster's positive attitude on this issue. In the next decades, John Brinsley advocated the use of English in connection with the teaching of Latin. He pointed out: (1) that English is the language of all sorts and conditions of men; (2) that few go on to a learned education; and (3) that the English language is the glory of the English people. Even in far-off Virginia, the colonial court was interested in his *Consolation for our Grammar Schools*

> . . . which was especially designed "for the more speedie attaining of our English tongue" by people of such rude countries as Ireland, Wales, Virginia, and the Somers Islands.[5]

But far more important than these advocates of English was the use of this language in the King James version of the Bible (1611) and in the works of Shakespeare, Milton, and others. These celebrated authors won imperishable glory for the English language before the French and the Germans had produced their greatest literary products. Within half a century of Milton's death, English literature was introduced into the dissenting academies, and a little later, in the colleges.

The Netherlands. Long before the Reformation a number of modern tongues were familiar to the sailors and tradesmen of the Hanseatic towns. As indicated in an earlier chapter, not only the vernacular but French also was commonly taught in their schools. The early translation of the Scriptures into Low Dutch, and the "houses of rhetoric" were highly effective in strengthening the vernacular as a means of learning. The Reformation intensified the growth of the vernacular tongues but broke the Netherlands into two divisions. The northern part, which became Protestant and republican, produced a brilliant, although short, era of intensive culture.

Germany. The greatest single events which made for the progress of the German language were the invention of printing and Luther's translation of the Bible into High German. The great simplicity and beauty of this translation made High German the standard language for all Germany.

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[5] Brown, Alexander, *The First Republic in America,* p. 443. Boston, Houghton Mifflin, 1898.

Ratich peddled his methods from court to court, keeping them a profound secret, and urged that the vernacular be taught before Latin and as a preparation for Latin. The first three years of his schools were devoted to the mother tongue, and only at nine years of age were the children introducd to Latin. Reading, writing, and grammar in the vernacular were learned before Latin was begun.

Andreä urged the use of the mother tongue and also other modern languages. Comenius went even further in his plans for universal education. In his program, the native tongue was to be learned during the first six years, in the home, and taught, to all children, the next six years in the vernacular school. Only after this training were the Latin and Greek languages to be studied.

The movement for the use of the vernacular was further stimulated among the Germans by the organization of special societies for this purpose. In 1617 there was formed at Weimar the *Fruitbearing Society* (*Fruchtbringende Gesellschaft*), which was to promote the use of German and to purify it of foreign words. This movement was fostered more especially by the nobility. It followed the example of the *Accademia della Crusca,* in Italy. Many similar associations were formed throughout Germany, some of them by the students of the universities.

In spite of these efforts, down to the end of the 17th century, attention was centered on the acquisition of a speaking knowledge of Latin. Students went to the universities unable to write their native language with any degree of accuracy; even many who found it necessary to publish their ideas in the vernacular had to have corrections made in almost every line. The reason for this deficiency in the use of German lay in the fact that the translations made by pupils into the mother tongue had not been corrected in the schools; only their Latin compositions had been corrected. The neglect of the vernacular tongue is well indicated by Francke, at the end of the 17th century:[6]

> I find that there are few theological students who can write a German letter correctly spelled. They violate or-

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[6] Barnard, Henry, *German Teachers and Educators,* p. 415. Hartford, Brown and Gross, 1878.

> thography almost in every line. I even know of many examples where, after they have entered upon the university, and have had occasion to have something printed, it has been necessary to have their manuscript first corrected almost in every line. . . . The reason for this defect is usually in the schools, where only the Latin translation of their exercises is corrected, but not the German; so that they learn nothing of spelling.

Moreover, Francke stated, although students were supposed to learn Latin, they did not do even this very thoroughly.

It was a scandalous innovation of learned propriety when Thomasius announced that he would lecture in German. This radical step occurred at the University of Leipzig in 1687. To make his act still more revolutionary, he chose a modern philosophic book. About the same time, his colleague, Christian Wolff, published his own philosophic work in German. Both of these men, because of their iconoclastic tendencies, soon found it necessary to transfer to the more liberal atmosphere of the University of Halle.

By the beginning of the 18th century the vernacular tongues had become the medium of communication everywhere except in the secondary and higher schools. But even here they had begun to find greater favor; it was not long before pupils in the classical gymnasiums were beginning Latin at nine years of age rather than at six, the age at which they had previously begun that study.

3. Growth of Interest in Popular Education

The 16th century viewed educational opportunity entirely from two standpoints: (1) cultural education for the higher classes; and (2) the elements of religion and an apprenticeship training for the masses. The aristocratic ideal was set forth by an Italian, Castiglione, in his work on courtesy (*Libro del Cortegiano*), printed in 1528; and by Sir Thomas Elyot, in *The Boke Named the Governour* (1531). Religious training for the masses was demanded by Luther. He also insisted on sifting out the brighter children for classical training, which would fit them to serve the state and the social order as pastors, doctors, teachers, judges, and civil servants. Something of this same point of view was expressed by the Englishman Richard Mulcaster, in his educational work, *Positions*, printed in 1581.[7]

> It seemeth to me verie plaine that all children be not to be set to schoole, but only such as for naturall wittes, and sufficient maintenance, either of their naturall parentes, or civill patrones, shall be honestly and wel supported in their study, till the common weale minding to use their service, appoint their provision, not in hast for *neede,* but at leasure with *choice.*

Popular education was further advanced in the cities and towns of the Netherlands than elsewhere. After throwing off the yoke of Spain, the Dutch people made public efforts to require compulsory elementary training for all children.

The 17th century saw this struggle—between the narrow, or aristocratic, and the broader, or democratic, views of education—become intensified. It was an age which took but fitful interest in the enlightenment of the common people, and when crowned heads and their followers prided themselves on their divine right to rule and sought by every means to make their power absolute. The latter had no interest in the improvement of the masses; in fact, they had no belief in the possibility of human betterment. The aristocrats looked with supreme repugnance upon the republicanism of Holland and the regicide and the libertarian principles of English Puritanism.

But the movements for popular sovereignty and education were growing. The same Calvinistic attitude which asserted the sovereign rights of the people demanded at least elementary education for the masses. In 1619, the Synod of Dort, the general assembly representing the Reformed Church of all lands, laid upon the civil authorities the duty of establishing schools where every class of society might learn to read. The same year, the Duchy of Weimar insisted that all children, boys and girls alike, should be compelled to attend school from the sixth to the twelfth year. About this same time, Andreä published his *Christianopolis*, in which he declared: [8]

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[7] Quick, R. H., *Positions: by Richard Mulcaster*, p. 141. London, Longmans, Green and Co., 1888.

[8] Held, Felix Emil, *Johann Valentin Andreä's Christianopolis*, p. 208. Urbana, University of Illinois, 1916.

> All the children of citizens in general, children of both sexes, are taken into training. When they have completed their sixth year, the parents give them over to the state. . . . As this is an institution for the public good, it is managed very agreeably as a common charge for all the citizens.

Comenius had, by all odds, the most democratic conception of education formulated until recent times. As early as 1630, he wrote: [9]

> Not the children of the rich or of the powerful only, but of all alike, boys and girls, both noble and ignoble, rich and poor, in all cities and towns, villages and hamlets, should be sent to school.

These liberal tendencies toward the emancipation of the masses and the education of all children found little sympathy. But there were special reasons why the doctrine of equality taught by Comenius awakened no response. Comenius represented a despised sect, persecuted, powerless, and dispossessed of its homeland. His sympathy for the uplift of the common people sprang from the evangelical fervor of his religious heritage. The Moravian Brethren were communists and believed in equality. Comenius' relations with the life and institutions of the Reformed Church further confirmed him in his democratic point of view. With this aspect of evangelical religion, Lutheranism generally had little more toleration than did the Catholic Church. The opposition that the aristocratic element felt toward popular education can be seen in the reply which the great Chancellor of Sweden Oxenstierna made to Comenius when he advocated the establishment of schools for all children.[10] "Can you stand contradiction?" he asked. Comenius replied that he desired criticism.

> The Chancellor then began to bring forward objections to the whole scheme of regenerating the world by means of Pansophia. Some of these objections were political, others rested on the Scriptural assurance that darkness rather than light was to be man's lot on earth.

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[9] Keatinge, M. W., *The Great Didactic of John Amos Comenius*, p. 218. London, Adam and Charles Black, 1896.

[10] *Ibid.*, p. 50.

Development of compulsory attendance. Meanwhile, the principle of compulsory attendance (*Schulpflichtigkeit*[11]) received considerable development during the middle of the 17th century. A number of German principalities adopted this policy. Duke Ernst of Gotha enacted the compulsory feature in his code of 1642. Braunschweig-Wolfenbüttel did the same in 1647. In Germany the first compulsory law with penalty attached was passed in Würtemberg in 1649. Other states to adopt this practice were as follows: Saxony, 1649; Hildesheim, 1663; Colemberg, 1681; Celle, 1689; and Prussia, 1717.[12]

Further progress of popular education. The end of the 17th century saw the opposition of democratic and aristocratic ideals still in bitter conflict. The views of the opponents of popular education may be represented by Governor William Berkeley, of Virginia; Cardinal Richelieu, of France; and the English philosopher John Locke.

Governor Berkeley, in answer to the question submitted by the "Lords Commissioners of Foreign Plantations" with regard to instruction in the colonies, responded in 1671 as follows:[13]

> The same course that is taken in England out of towns; every man according to his ability instructing his children. . . . But, I thank God, there were no free schools nor printing, and I hope we shall not have these hundred years; for learning has brought disobedience, and heresy, and sects into the world, and printing has divulged them, and libels against the best government. God keep us from both.

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[11] What the Germans mean by *Schulpflichtigkeit* cannot be adequately translated by any English word. The term means literally that the children are "due at school"—that is, duty bound to be at school.

[12] Barnard, Henry, *op. cit.,* p. 519; Ziegler, T., *Geschichte der Pädagogik.* München, C. H. Beck, 1909.

[13] Henning, William Waller, *Laws and Statutes of Virginia,* Vol. 2, p. 517. Richmond, Virginia, 1819–1823.

Recent authorities have sought to discredit Governor Berkeley's statement by pointing to the number of "free schools" established in Virginia. They have, however, missed the main issue. The governor had in view the free education of the common people "out of towns"—that is, in the country. In the emphatic statement of his aversion to popular enlightenment he was only expressing the attitude of all aristocratic Englishmen at the time.

Cardinal Richelieu, writing in 1687, presented the French aristocratic view as follows: [14]

> Although the knowledge of letters is eminently necessary for a country, it is certain that they need not be taught to everybody. Just as a body which had eyes on all sides would be monstrous, so the State would be if all its citizens were scholars; less obedience would be found and pride and presumption would be more common. Intercourse with humane letters would entirely banish that with commerce, would ruin agriculture, the true foster-mother of peoples, and would in a short time destroy the nursery of soldiers which rises oftener amidst rudeness and ignorance rather than in an atmosphere of polite culture; finally, it would fill France with quacks more apt to ruin private families and disturb public peace than fit to secure any advantage to the country. . . . If letters were profaned for all types of minds, one would see more people ready to raise doubts than to solve them, and many would be more ready to oppose truth than to defend it. It is for this reason that policy requires in a well regulated state more masters of mechanical arts than masters of liberal arts to teach letters.

The celebrated English philosopher John Locke, who helped so signally to lay the foundations for modern political democracy, was undeniably aristocratic in his educational views. In 1700 he wrote: [15]

> Nobody is under an obligation to know everything. Knowledge and science in general is the business only of those who are at ease and leisure.

In spite of the strength of aristocratic sentiment, there awakened toward the end of the 17th century a new spirit of philanthropy, missionary zeal, and interest in the religious and educational welfare of the common people. Missionary and educational interest arose in Holland when that country became a colonial power. In Germany, the development took the form of Pietism, with its profound concern for the education of the poor and the religious training of all classes. The

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[14] Quoted by Kandel, I. L., *op cit.*, p. 151, from Richelieu's *Testament Politique.*

[15] Locke, John, *Conduct of the Understanding*, § 7.

Moravian Brethren under Zinzendorf became the most zealous missionaries and educators of all Protestants. In England, this new movement of Christian philanthropy expressed itself in the founding of the S. P. G. and the S. P. C. K. The fact that those two organizations were somewhat international in scope is of great significance. Many similar societies were formed in other countries. The charity school movement in England and America was due to the new awakening of Christian interest in the needs of the poor. German Pietism and the S. P. G. worked hand in hand in missionary and educational efforts in America.

No force at this period was more effective in arousing interest in popular education than was Pietism in Germany. Francke's efforts bore fruit widely and laid anew the foundation for popular schools. While Francke had much in common with Comenius, it must be noted that he lacked the social and scientific breadth of interest of the great Moravian. Both would educate all children. Comenius would train them together in the same schools, without distinction of class; but Francke set up special schools for the various classes of society. Comenius would teach everyone everything; Francke taught religion to everyone, but differentiated the curriculum to train for various social strata.

The movement for popular education received its most powerful support from the evangelical elements of the Protestant Church. But it would be an error to believe that a similar movement was not present also among the Catholics. A genuine spirit of Christian philanthropy was to be found in the work of Démia and of La Salle, who founded the order of the Brothers of the Christian Schools.

In all these efforts to bring the advantages of education to the common people, the dominant motive was Christian charity. The church was impelled by a sense of pity and of duty. The idea of education as a right of the child, a means of social uplift and of political preservation, had not yet dawned.

4. Summary of Seventeenth-Century Education

In spite of serious obstacles, the 17th century made several important steps in the progress of education. These may be briefly summarized in the following points:

(1) The grave weaknesses of classical Humanism became ever more apparent. Various efforts were made to revise the teaching of Latin by means of better methods of instruction, but the real enthusiasm and vital reason for Latin literature and Ciceronian eloquence had departed. The use of Latin was gradually confined to the learned professions. The supremacy of Latin in diplomacy, religion, and commerce had departed.

(2) This century marked the rise of modern languages. Spanish and Italian literatures had developed. English literature had evolved to an extraordinary height. French literature was exhibiting promise, but German literature had not yet begun. All these languages were rapidly developing and were contesting with Latin for a place in the curricula of the schools, and for use in learned books and in university lectures. Substantial gains were made in the employment and teaching of the vernacular tongues.

(3) The most outstanding aspect of progress was the expansion of scientific knowledge. This was peculiarly true in the field of mathematics and the physical sciences; a foundation was also laid in other sciences.

(4) This period witnessed the rise of Rationalism as a method of scientific discovery. At the same time Empiricism received a great impetus. The adjustment of the claims of these two constituted the great problem of scientific method.

(5) The growth of the sciences and the expansion of practical knowledge led to the demand for curricular revision. The principle of use, or utility, was more and more advocated by all the educational theorists of the day, for Realism was a matter not merely of subject content but also of method of instruction.

(6) The early part of the century saw the writing of a considerable number of utopias. These formed the beginnings of theories of human progress which had great significance for education.

(7) Theories of government, law, and human right ceased to find a foundation in authority, and began to seek a basis in human nature. Efforts to justify monarchical government and democracy were of profound significance.

(8) The acceptance of the principle of religious toleration in most of the countries of northern Europe gave new op-

portunities of development to the more progressive elements in the various religious bodies, especially to the evangelical sects. It was these peoples who now began to furnish education as a charity service for the poor. The most important of the new religious developments were: Pietism, in Germany; and the S. P. C. K. and the S. P. G., in England.

(9) The democratic and the aristocratic policies in education came into sharp conflict during this century. The democratic position was represented by Comenius, who required all children, high-born and low-, rich and poor, to attend the same schools. The aristocratic tendency found its expression in the Ritter (Knightly) Academies for the noble class in Germany.

(10) The education of girls received a new emphasis during the century; especially was this true in France.

(11) Educational theory gained insight and independence. Among the theorists of the century were: Ratich, Comenius, Milton, Fénelon, the Port Royalists, Mulcaster, and Francke.

(12) The training of teachers was begun. The Jesuits were the first to undertake the preparation of teachers, but the training they gave was largely confined to the curriculum and stereotyped methods. Démia and La Salle, in France, set up normal schools. Francke, in Germany, gave some training to the students who were to catechize in the schools, and special instruction to those who were to teach in the Latin schools.

(13) The colonists carried to America their various educational ideals and policies. The Puritans in New England, the Dutch in New York, and the Presbyterians and Huguenots scattered in various states—all followed the Calvinistic ideals and practices. The English Cavaliers dominated Virginia and had chiefly the aristocratic attitude. In the Middle Atlantic States and to some extent in the other states, Swedish, Lutheran, Mennonite, Quaker, and other colonies were established, and each had its own views and provisions for education.

For Further Study

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CHAPTER XII

THE TRANSITION ERA

1. John Locke and the Philosophy of Empiricism

Of the leaders of this era John Locke was by all odds the most important. While no one ranks him with such exalted and constructive figures as Plato, Aristotle, or his own successor, Kant, it is far easier to underrate him than to appreciate his real worth. Coming just when he did and having fresh and sensible views on many of the deepest problems of the age, he became uniquely important. He was a pivotal figure on whose ideas the new epoch turned; for this reason, his life and contributions merit special study.

I. LIFE AND WORKS OF JOHN LOCKE

Early life and education. Locke was born in 1632 at Wrington, a small village some ten miles from Bristol, in southwestern England. His father was a capable Puritan attorney who saw to it that the boy received a good education, even in that era of political turbulence. At fourteen he was enrolled in Westminster School, where Dr. Richard Busby, the notorious flogger,[1] was headmaster. Here he spent six years almost

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[1] The following stories of Busby, as related by Hazlitt, are too interesting for the student of educational history to miss:

"Everybody must remember the traditional anecdote of the visit of Charles II to Westminster, and of the King, with his hat under his arm walking complacently behind Busby through the school, the latter covered; and of the head-master, when his Majesty and himself (*Ego et rex meus* over again) were beyond observation, bowing respectfully to Charles, trencher cap in hand, and explaining that if the boys had any idea that there was a greater man in England than him, his authority would be at an end.

"But there is a second story of Busby and a luckless Frenchman, who threw a stone by accident through one of the windows while the lessons were in progress and the principal was hearing a class. Busby sent for the exclusively in the study of Latin and Greek, preparatory for college. It is supposed by some that he was among the schoolboys who viewed the execution of Charles I. This is by no means certain, but it is known that his father was a captain in the parliamentary army and that during these years of political disturbance Locke was in closest proximity to the very spring and source of revolutionary action.

For reasons which his biographers are unable to explain satisfactorily, Locke did not enjoy his school life. Regardless of the cause of his unhappiness, he long after felt a revulsion against the common association of boys in public schools.

At the age of twenty Locke entered Christ Church College, Oxford, where he was given a studentship which provided a respectable living. He held this appointment for over thirty years, when he was dismissed by the order of Charles II. He received the B. A. and the M. A. degrees, and for a time was a tutor in Greek, rhetoric, and ethics. He then took up medicine, a field better suited to his taste.

Locke left Oxford in 1667, and for a number of years lived as friend, confidential secretary, and physician to the Earl of Shaftesbury. This association led to his employment in various public offices. But what is more significant, he acted as tutor to the fifteen-year-old son of the Earl of Shaftesbury and later supervised the childhood training of the heir and grandson. These were not the only experiences Locke had with the education of children; however, they were the first that directed his studious attention to the problems of education and furnished the basis for his later discussions of this subject. On account of ill health, which greatly distressed and hindered him in his work, Locke spent four years in France. Furthermore, after the fall of Shaftesbury, Locke felt obliged to exile himself

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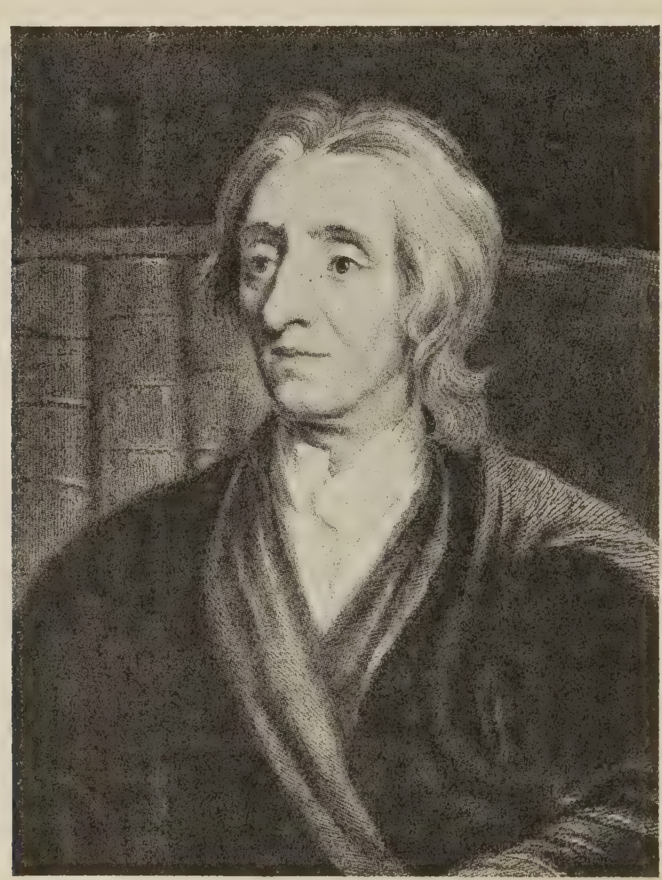
offender, thinking it was one of the boys in the playground; but when the stranger was introduced, it was 'Take him up,' and a flogging was inflicted before the whole assembly. The Frenchman went away in a fury and at once sent a challenge to Busby by a messenger. The Doctor reads the cartel, and cries, 'Take him up,' and the envoy shares the fate of his employer. He, too, enraged at the treatment, returns and demands compensation from Monsieur, but the latter shrugs his shoulders, and can only say, 'Ah, me! he be the vipping man; he vip me, he vip you, he vip all the world.' "

See Hazlitt, W. Carew, *Schools, School-books and Schoolmasters,* pp. 21–22. London, J. W. Jarvis and Sons, 1885.

in Holland. These periods of absence furnished him the necessary leisure for quiet thinking and the writing of those great works which were to direct philosophy into new and more fruitful pathways. Returning to England in the train of William of Orange, Locke was offered many flattering preferments, some of which he could not accept. He died in 1704, renowned as the deepest thinker England had produced.



John Locke.

Locke's writings, which cover a wide range, may be grouped under philosophy, government, education, economics, and religion. So far as government is concerned, it is of interest to know that he formulated a constitution for the Carolinas; that he held advanced views in regard to the political rights of all men; and that he vigorously combatted the doctrine of the divine right of kings and proclaimed the need of constitutional government. In 1690 he issued *Two Treatises on Government,* which clearly set forth his democratic views. In these he argued with force against the doctrine of the divine right of kings, declaring: "Absolute monarchy is indeed inconsistent with civil society, and so can be no form of civil government at all." In a state of nature, he declared, all men are free, independent, and equal. He also wrote four letters on toleration, in which he urged the complete separation of church and state, and liberty of worship and conscience for all who believe in God. In all these contentions he was far in advance of his day.

Locke made his most profound and revolutionizing contributions in the realm of philosophy. In 1687 he completed the *Essay Concerning Human Understanding,* on which he had been carefully meditating for many years. This is his most enduring contribution, and its effect upon European thinking was incomparably great. This work was published in 1690. Few will question the following evaluation of the essay: [2]

> The most important philosophical treatise that has been written by an Englishman—the most important because to it is more or less due the writing of nearly every other important treatise that has since appeared.

In the field of education his chief work was a series of letters published in 1693, entitled *Some Thoughts Concerning Education.* After his death a number of other writings—none of them complete—were published by friends. The most valuable of these was *Conduct of the Understanding;* usually regarded as a work in philosophy supplementary to his *Essay Concerning Human Understanding,* it is in reality, as the title implies, a treatise on the training, or education, of the rational faculty. Less important writings on education were: *Some Thoughts Concerning Reading and Study for a Gentleman; Instructions for the Conduct of a Young Gentleman;* and a short discussion *Of Study.* The only indication that he was aware of the general need of education for the masses is found in a plan for *Working Schools.*

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[2] Bourne, H. R. Fox, *The Life of John Locke,* Vol. II, p. 87. London, Henry S. King and Company, 1876.

II. Psychological Innovations

Locke studies the origin and bounds of knowledge. The supreme barrier to the intellectual and moral progress of the day lay in the ancient myth that ideas are innate; that is to say, that they are inborn possessions of the rational faculty. This doctrine gave support to all the traditional and scholastic principles which were used as a justification for the worn-out conditions in church, state, society, and the school. It was still more injurious in that it discredited every effort at the advancement of knowledge by observation and experimentation. How he came to study this problem Locke has carefully informed us: [3]

> Five or six friends meeting at my chamber, and discoursing on a subject very remote from this, found themselves quickly at a stand, by the difficulties that rose on every side. After we had a while puzzled ourselves, without coming any nearer a resolution of those doubts which perplexed us, it came into my thoughts, that we took a wrong course; and that, before we set ourselves upon inquiries of that nature, it was necessary to examine our own abilities, and see what objects our understandings were, or were not fitted to deal with.

With this aim in view he began quite modestly the investigation of human faculties which was to revolutionize not only philosophy but also society, government, and education. In his investigation, he tells us,[4] he sought to give an

> . . . account of the ways whereby our understandings come to attain those notions of things we have, and can set down any measures of the certainty of our knowledge, or the grounds of those persuasions which are to be found amongst men, so various, different, and wholly contradictory. . . . If by this inquiry into the nature of the understanding, I can discover the powers thereof; how far they reach, to what things they are in any degree proportionate, and where they fail us; I suppose it may be of use to prevail with the busy mind of man to be more cautious in meddling with things exceeding its comprehension; to stop when it is at the utmost

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[3] Locke, John, *Essay Concerning Human Understanding, Epistle to the Reader,* p. viii.

[4] *Ibid.,* Book I, Chap. 1, §§ 2 and 4.

> extent of its tether; and to sit down in a quiet ignorance of those things, which, upon examination, are found to be beyond the reach of our capacities.

Locke could discover no innate ideas. The ideas and principles which philosophers regarded as innate are of several kinds. Some are purely abstract, general propositions, such as: "The whole is larger than a part"; and "It is impossible for the same thing to be and not to be at the same time." Some are religious conceptions; for example: the idea of God, which Descartes thought most fundamental of all; faith; and, "God is to be worshipped." Others have to do with our practical life; that is to say, with our moral or ethical nature, such as our sense of what is just and unjust, right and wrong, good and bad. Finally, there are our original mathematical ideas, or axioms, which possess a validity and self-evident certainty that transcend empirical experience; unquestionably they must have a supersensible origin. It will be perceived that, if these various ideas are all innate, then all knowledge of any importance rests upon an innate basis. Now, it was this fundamental assumption that Locke courageously, yet in amiable spirit, dared to deny.

If these ideas are innate, they must inevitably possess certain characteristics. First of all, they must be found in the minds of infants, of idiots, and of all primitive peoples, for the very meaning of innate signifies something inherent in the soul before birth. Again, innate ideas will necessarily be found in the minds of all people everywhere, and every mind will have precisely the same idea. Thirdly, an idea that is innate will be perceived as a necessary self-evident proposition. As a physician and intimate friend of a number of families, Locke was acquainted with several infants. But he could not discover that any of them showed evidences of a precocious acquaintance with these ideas, supposed to be innate, until they had attained the age of rationality. He studied closely the writers of his time who had engaged in anthropological investigations. From the observations of these scholars, he concluded that not even the idea of God is everywhere to be found in the minds of all primitive peoples. He noted, furthermore, that some of the greatest peoples of history, the Greeks and the Romans, did not by any means hold the same conceptions of justice, right and wrong, good and bad that were held in his day. Even axioms and principles of mathematics were not universally known. In fact, he concluded, there is not a single idea known to the human mind that can be truly said to be universal and therefore innate.

Only two sources of knowledge. Fortunately Locke did not rest content with destroying the myth of innate ideas. He set forth a different source and suggested a new explanation of the growth of knowledge, in place of that which he so deliberately demolished. He began by asking the following questions:[5]

> Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas; how comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it, with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer in one word, from experience; in that all our knowledge is founded; and from that it ultimately derives itself.

Locke discovered two sources of knowledge: one, outer; the other, inner. The outer source of all man's ideas is the five senses; the inner source is the experiences he receives from the operation of his mind in his conscious mental activities.[6]

> Our observation employed either about external sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring.

The wealth of sensory materials which comes to the mind from the eyes, the ears, and the other sense organs, acquaints one's mind with the objective world, and is the basis of all one can know of the objects of the world about him.

In addition to the experiences which pour in from the outer world through the sense organs, there are also the experiences which the mind has of its own operations. Locke was a philosopher by virtue of the fact that he was primarily a psychologist; few men have had more profound insight into the operation of the human mind. In regard to this source of experience, he wrote:[7]

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[5] *Ibid.*, Book II, Chap. 1, § 2.

[6] *Ibid.*, Book II, Chap. 1, § 2.

> The other fountain, from which experience furnisheth the understanding with ideas, is the perception of the operation of our own minds within us, as it is employed about the ideas it has got; which operations, when the soul comes to reflect on, and consider, do furnish the understanding with another set of ideas, which could not be had from things without; and such are, perception, thinking, doubting, believing, reasoning, knowing, willing, and all the different actings of our own minds; which we being conscious of, and observing in ourselves, do from these receive into our understandings as distinct ideas, as we do from bodies affecting our senses. This source of ideas, every man has wholly in himself; and though it be not sense, as having nothing to do with external objects, yet it is very like it, and might properly enough be called internal sense. But as I called the other sensation, so I call this *reflection,* the ideas it affords being such only as the mind gets by reflecting on its own operations, within itself.

That there is no other source of human knowledge, Locke was quite positive:[8]

> These two, I say, viz., external material things, as the objects of sensation, and the operations of our own minds within, as the objects of reflection, are to me the only originals from whence all our ideas take their beginnings. . . . The understanding seems to me not to have the least glimmering of any ideas which it doth not receive from one of these two.

The *tabula rasa* theory. The mind in its original state is a sheet of "white paper, void of all characters," a *tabula rasa*—or, a wax tablet on which grooves are made as by a stylus. Such is the simple but graphic figure of speech which Locke employed to explain the origin of ideas. Impressions are made upon the mind through the senses, and as a result images are formed in the mind. In this process the mind is purely passive and receptive, just as a sheet of paper passively receives the impressions of the pen used in writing. The mind plays no active part in hearing a sound, seeing a light, or in any of the original perceptions which come to it.[9]

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[7] *Ibid.*, Book II, Chap. 1, § 4.

[8] *Ibid.*, Book II, Chap. 1, §§ 4 and 5.

> These simple ideas, when offered to the mind, the understanding can no more refuse to have, nor alter, when they are imprinted, nor blot them out, and make new ones itself, than a mirror can refuse, alter, or obliterate the images or ideas which the objects set before it do therein produce.

The passive attitude of the mind is one of Locke's most unique but erroneous notions.

Working up the raw materials. The mind, as Locke conceived it, may be roughly likened to a mill in which rock containing various ores is treated. The mill is purely receptive in that it must wait to have the raw materials poured into it before it can exercise its functions. By a process of crushing and separation, the different ores are disengaged. So the mind, by discrimination, analysis, and association, separates and recombines the materials of sense perception into concepts, or generalizations, abstractions, relations, and general principles. In his discussion of the higher mental processes, Locke added greatly to psychological knowledge. It was this contribution that made possible the great systems of education in the next two centuries.

Implications of a denial of innate ideas. Locke's destructive attack upon the doctrine of innate ideas carried several implications of peculiar importance for the progress of education. It is pardonable that he should not have developed these implications completely in his own thinking; that he was aware of them can scarcely be doubted.

Doctrine of human depravity. The ancient belief in human depravity was involved in the doctrine of innate ideas. This doctrine was held with tenacity by most educators, and it had a marked influence upon their educational practices. If, however, ideas as such do not exist in the human mind before birth, what right is there to hold that inner depravity is innate in the human heart? Neither Locke nor his contemporaries had a clear conception of heredity; he declared that all children are equal at birth, and that they become chiefly what they are, "good or evil, useful or not, by their education." Thus his destructive criticism of innate ideas succeeded in carrying down with it the theological dogma of innate total depravity.

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[9] *Ibid.*, Book II, Chap. 1, § 25.

Paved the way for idea of human development. The observations of human development so carefully made by Comenius were evidently unknown to Locke. In fact, as all the other great principles of the amiable Moravian, this one, too, was apparently dead so far as European pedagogy was concerned. But Locke's investigations, without intention on his part, gave quite a new basis for such a conception, a basis in philosophic principle. While Locke did not himself appreciate its significance for a theory of development, Rousseau, on the other hand, seized upon it with eagerness and made it the ground of all future educational philosophy.

The doctrine of innate ideas implies that the mind of the child possesses the same fundamental, intellectual furniture that is found in the mind of the adult. In the one, knowledge is still implicit though as yet unrealized; in the other, it is fully explicit and understood. To all intents and purposes the child is a miniature adult and simply expands into adulthood. If ideas are not innate, then the child differs radically from the adult, so far as his intellectual possessions are concerned.

In the course of his discussion, Locke necessarily directed attention to the character of the infant mind at birth, and traced the mental processes by which the child gradually builds up his knowledge and acquires the ability to think in abstract terms. Locke pointed out that the rational faculty is late in emerging in the life of the child. These facts tended to emphasize, as nothing had yet done, the idea of human development.

Is anything innate? Though Locke denied that knowledge is an innate possession of the human mind, he did not include in this denial all aspects of the mental life. He did not take the radical step that his followers later took, of denying the existence of the soul or mind prior to the coming of the first sensation. Nor was this all. He not only assumed the existence of the soul or mind but allowed that it possessed certain capacities. In fact he admitted all the appetites and the mental faculties. To be sure, he did not enter upon a discussion of their character, for this was, in a way, foreign to his purpose. But in all his discussions he took for granted that these capacities were already present. This assumption was of the most fundamental importance for his educational doctrines.

Springs of action and motivation. Human activity springs from inner appetites or needs, and is guided by the effort to avoid pain or to obtain satisfaction or pleasure. Inner appetites are experienced as desires. Locke did not agree with Descartes that the mind is pure thinking substance and the body a machine. As little did he accept the traditional formula that man is an animal animated by reason but without instinct, and that all other animals are animated by instincts but without reason. As to the ultimate source of activity, he wrote:[10]

> What moves the mind in every particular instance, to determine its general power of directing to this or that particular motion or rest? . . . The motive to change, is always some uneasiness: nothing setting us upon the change of state, or upon any new action, but some uneasiness.

Locke believed the human soul is endowed with two types of propensities or desires: (1) ordinary necessities, such as thirst, hunger, heat, cold, weariness, sleep, and so on; and (2) "fantastical uneasiness," such as the "itch for honor, power, riches," "vanity of dress," emulation, "and a thousand other irregular desires." These he called "acquired habits," or "adopted desires . . . settled in us by fashion, example, and education." In *Some Thoughts Concerning Education,* he set down as native propensities that originate much of the conduct of the child, the love of liberty, love of possession, curiosity, and desire for recreation. But the chief motivating principles are the sense of shame and the desire for honor. He considered this craving for honor or social approval the most powerful agency for controlling the conduct of children and inducing them to study:[11]

> *Esteem* and *Disgrace* are, of all others, the most powerful Incentives to the Mind, when once it is brought to relish them. If you can once get into Children a Love of Credit and an Apprehension of Shame and Disgrace, you have put into 'em the true Principle.

Habit. *Habit,* as Locke defined it, is the power or ability of doing some one action which has been acquired by frequent repetition of the action. He laid the greatest possible stress upon this aspect of the human organism; accordingly, in his view, education may be summed up as a process of forming habits. Habit is supremely important in the building of moral character, but is equally the basis of the power of reasoning and other activities.

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[10] *Ibid.,* Book II, Chap. 21, § 29.

[11] Locke, John, *Some Thoughts Concerning Education,* § 56.

The faculty of reason. Locke has suffered great misunderstanding from the effort to classify his philosophy and his system of education. It may well be doubted if any thinker offers a better example of balanced common sense. His mind saw all sides of any controversy, and saved him from prejudice and narrowness of view. But, for some unaccountable reason, unless it be their inherent comprehensiveness, his writings have a strange facility for promoting enthusiastic partisanship for one-sided systems of thought. No mystic was ever more firmly convinced that man has a positive knowledge of the existence of God. Yet both atheists and theists find proofs of their conclusions in his views. Both Materialists and Idealists trace their origin to him. Similarly, varying schools of education classify him as an advocate of formal discipline and as a utilitarian. Again, there are those who regard him as an Empiricist and Sensationalist, while others are quite as positive that he was a Rationalist.

Without any implication that he should be classified as a Rationalist, it must be said that Locke did place the highest emphasis upon reason, but it was reason functioning for the sake of the moral welfare of the individual and not as an end in itself. Speaking of the pupil, Locke said: [12]

> If he shew a Forwardness to be reasoning about Things that come in his way, take care, as much as you can, that nobody check this Inclination in him, or mislead it by captious or fallacious ways of talking with him. For when all is done, this, as the highest and most important Faculty of our Minds, deserves the greatest Care and Attention in cultivating it: The right Improvement, and Exercise of our Reason being the highest Perfection that a Man can attain to in this Life.

There is nothing contradictory in Locke's view that all knowledge originates in sense perception and that reason is the highest faculty of the mind. For he shows how the rational judgment combines into concepts and judgments the materials furnished by the senses. Man is both a sensory and a rational creature.

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[12] *Ibid.*, § 122.

Locke's philosophy of language. From the Renaissance onward, education had been predominantly, one might even say exclusively, linguistic, consisting of the acquisition of the Latin and the Greek languages. General culture headed up in the study of rhetoric, with Ciceronian eloquence as the supreme aim. This deadly devotion to languages had its *raison d'être* in the contribution to be made to culture by religious and ethical knowledge and by the cultural ideals to be found in the classical literatures. But the effort to acquire these foreign tongues resulted in making education exclusively verbal and therefore memoriter. Instruction was a matter of words, words, and more words. The content of thought, the precise significance of words, and the study of things were all too sadly neglected. All those mental activities which are employed in the natural course of experience and the direct acquisition of knowledge found no opportunity for exercise in school work. The inevitable result was that language was employed in a loose, indefinite, rhetorical manner, and thought was consequently crude, superficial, inexact, and frequently contradictory. To cure these defects, a philosophy of language was essential. As part of his great services in clearing away the misconceptions of philosophy which hindered clearness of thought, Locke discussed the function and abuse of language. Strange to say, no aspect of his philosophy has been so completely overlooked as has this.

Words are signs or symbols of the ideas in the mind of the individual who uses them, and they apply to his own thought image or mental content. The same word will be used by another individual to stand for quite a different mental content, unless the two individuals agree to attach a precise meaning to the term. Again, Locke pointed out that words are arbitrarily chosen symbols. They do not possess some natural or mysterious connection with the things they signify. They do not express reality. "A rose by any other name will smell as sweet"; otherwise, it would be "rose" in every language.

He pointed out the peculiar danger to education which comes from the unusual facility with which young children learn languages. By some strange purpose of nature, young children pick up and repeat words to which they attach no mental content whatever. Later the synthesis of meaning and word may or may not be formed in their experience. In the case of abstract ideas, such as, *justice, gratitude,* and so on, the words will be learned before the ideas, as such. But education has been greatly deceived in that it has emphasized the learning of languages, and the acquisition of words without a corresponding development of thought. This grave weakness had been pointed out earlier by other reformers; however, until Locke's analysis of language, no one had clearly explained the difficulty. No greater blow was ever aimed at the tendency to make education predominantly linguistic. Though he had taught rhetoric at Oxford, Locke came to hate it as much as did Plato, for he termed it "that powerful instrument of error and deceit." As for Greek, he relegated it to university study. Latin was made subservient to the mother tongue, and versification, composition, and Latin eloquence were entirely eliminated.

As a matter of fact, Locke had an ingrained distrust of words. He urged that thinking be done without words, in so far as possible. For words are, "in their own nature, so doubtful and obscure, their signification, for the most part, so uncertain and undetermined . . . that if in our meditations our thoughts busy themselves about words, and stick to the names of things, it is odds but they are misled or confounded."[13]

III. EDUCATION

Source of Locke's educational ideas. In forming his views on education, Locke was influenced largely by Montaigne, to a lesser degree by ancient writers, but most of all by the practices of English families of the higher class. It is evident that he had no acquaintance with the great works of Comenius and Mulcaster, nor with those of Ascham and other Humanists. As a matter of fact, his ideas were chiefly the results of his cogitations upon his own experiences as a teacher and upon his observation of others.

Aim of education. "That most to be taken care of is the Gentleman's calling." Such, in a word, is Locke's general view of the scope of education, a training confined to the aristocratic class. He excused his narrowness by the suggestion that, if the gentry are properly trained, "they will quickly bring all the rest into order." Nevertheless, one cannot but feel that he failed to understand the deeper significance of the process of education as an essential element for individual development and social progress. Not only that. He showed likewise no appreciation of the pleasures of knowledge as such, for he confined its advantages exclusively to the upper classes. "Knowledge and science," he wrote, "in general, is the business only of those who are at ease and leisure."[14] Locke's statement of the aim of education was as follows: [15]

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[13] Locke, John, *Of Study,* § 3.

> That which every Gentleman . . . desires for his Son, besides the Estate he leaves him, is contain'd (I suppose) in these four things, *Virtue, Wisdom, Breeding,* and *Learning.*

He selected these four essentials, virtue, wisdom, breeding, and learning, in preference to eloquence, virtue, and piety, the aim of the Humanists. Moreover, these qualities he named in their order of importance. "I place *Virtue,*" he declared, "as the first and most necessary of those endowments that belong to a man or a Gentleman; as absolutely requisite to make him valued and beloved by others, acceptable or tolerable to himself." *Virtue,* by which he meant the basis of good character, depends entirely upon proper religious training. It comprehends especially reverence for God, love of truth, and goodwill toward others. *Wisdom,* in Locke's thought, is prudence, sound judgment, and foresight in the practical affairs of life, such as managing one's estate and performing public service for the prosperity of the commonwealth. *Good breeding,* or manners, in accordance with English tradition was raised by Locke to a rank of major importance in education. It has as its inner spring proper self-regard and respect for others; its rule is: "Not to think meanly of ourselves, and not to think meanly of others." Locke placed *learning* last and least. It "must be had, but in the second place, and subservient only to greater qualities."

Though Locke minimized the importance of learning, as compared with the other objectives, he did not do so out of lack of respect for human intelligence or the rational life. Reason is man's highest faculty, but it is a faculty which functions more valuably in ethical and practical affairs than in purely speculative fields or in the amassing of knowledge. Not the scholar but the practical "gentleman whose proper calling is the service of his country" is to be the product of the education which Locke proposed. He had very little respect for the scholar as such. Of him he said: "I imagine you would think him a very foolish fellow that should not value a virtuous or a wise man infinitely before a great scholar."

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[14] Locke, John, *Conduct of the Understanding,* § 7.

[15] Locke, John, *Some Thoughts Concerning Education,* § 134.

Private versus public education. As to the important issue, whether education is the prerogative of the church, state, community, or family, Locke preferred the family. The only issue, he thought, is between the family and the public schools. He carefully weighed the advantages and disadvantages of each, and decided "the faults of a private education infinitely to be preferred" to those of the public schools. So far as a knowledge of the world is concerned, public schools are superior; but in the inculcation of morals and manners the home is more efficient and, as he declared, "Virtue is harder to be got than a knowledge of the world." Strange to say, in spite of the rigorous regimen of public schools of England, his objection to them was because they produced a "Contagion of rudeness and vice . . . Trickery and violence," and "self conceit." He preferred the "innocence of the child by rearing him at home under the guidance of a tutor rather than the false sophistication acquired at school."

Work of the tutor. Concerning this type of training, Locke wrote:[16]

> The great Work of a *Governor* is to fashion the Carriage, and form the Mind; to settle in his Pupil good Habits and the Principles of Virtue and Wisdom; to give him by little and little a View of Mankind, and work him into a Love and Imitation of what is excellent and praise-worthy; and, in the Prosecution of it, to give him Vigor, Activity, and Industry.

Physical education. In accord with his ideals of an English gentleman, Locke began with physical education. The guiding principle here is a sound mind in a sound body. Much time is to be devoted to play, especially in the open air, and to swimming. Many suggestions are given in regard to hygiene. This may have been due to his interest in medical science or to his own sad experience in struggling with a feeble constitution. The most arresting prescription is that of the hardening process. The naked savage inured to extremes of heat and cold, hunger and thirst, is sharply contrasted with the children of civilization weakened by too great tenderness. No covering for his head, shoes that let the water in, no gloves for his hands, clothing loose and not too warm—such is Locke's advice for apparel for the boy. Plenty of sleep, simple diet, no medicines, and "seldom, if ever, wine or strong drink" complete the regimen of the child and insure sound health and vigor.

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[16] *Ibid.*, § 94.

Education and moral discipline. The words *education, discipline,* and *instruction* have never been used with sufficient accuracy to be completely separate in meaning. Originally, the Latin *educatio,* from which the English term is derived, was a domestic word and signified to rear, or to bring up, a child physically, mentally, and morally. The corresponding word of the Greek was *agoge,* as found in the modern word *pedagogy.* The Germans use *Erziehung,* which corresponds rather accurately to the Latin idea. The word *discipline* came from the Latin term *disciplina.* In its original form, it signified instruction, tuition, or teaching. It corresponded fairly well with the Greek *didaskalia,* the German *Unterricht,* and the French *enseignement.* It is evident that the term *disciplina* has undergone a radical change. Originally, it had the idea of instruction or teaching; today, it is employed to denote control, training, or government. These words are all used to describe the active efforts of the older generation to bring up the child by training and instruction. At times and by some thinkers, the one aspect is emphasized; then again, the other is stressed. English education has always had a tendency to exalt the disciplinary side. Locke is one of the strongest advocates, in the history of education, of the theory that education is a moral discipline rather than a process of intellectual instruction. The truth is that Locke's chief purpose was to make gentlemen who would know how to act in conventional society.

Self-control the basis of moral integrity. The supreme secret of moral training, according to Locke, is to be found in the habit of self-control. It is the power to say "No!" to inner impulse or desire.[17]

> The great Principle and Foundation of all Virtue and Worth is plac'd in this: That a Man is able *to deny himself* his own Desires, cross his own Inclinations, and purely follow what Reason directs as best tho' the Appetite lean the other way. . . .
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> He that has not a Mastery over his Inclinations, he that knows not how to *resist* the Importunity of *present Pleasure or Pain,* for the sake of what Reason tells him, is fit to be done, wants the true Principle of Virtue and Industry, and is in danger never to be good for any Thing. This Temper, therefore, so contrary to unguided Nature, is to be got betimes; and this Habit, as the true Foundation of future Ability and Happiness, is to be wrought into the Mind as early as may be, even from the first Dawning of Knowledge or Apprehensions in Children, and so to be confirm'd in them by all Care and Ways imaginable, by those that have the Oversight of their Education. . . .
>
> To make a good, a wise, and a virtuous Man, 'tis fit he should learn to cross his Appetite, and deny his Inclination to *Riches, Finery,* or *pleasing his Palate,* etc., whenever his Reason advises the contrary, and his Duty requires it.

Motivation. As to the means of developing self-mastery and the virtues, Locke does not leave his reader in doubt. He believed, on good grounds, in old-fashioned obedience, as he wrote: [18]

> He that is not us'd to submit his Will to the Reason of others *when* he is *young,* will scarce hearken to submit to his own Reason when he is of an Age to make Use of it.

Usefulness determines the curriculum. Usefulness is the guiding principle in the selection of the course of study. Locke was in thoroughgoing accord with the ancient adage *Non scholae sed vitae didiscimus.* Each study and the details of each must find their justification in the contribution they make to life. However, it is not the present life of the child, but his future life as a man that is the determining factor. Moreover, Locke did not have in view a low materialistic utility, but rather the usefulness which has significance for human conduct, the practical in its best and highest sense. Even religion, which is the gentleman's "calling as a man in the world," is the first and most important subject in the course of study. After religion, the conduct and interests of the gentleman will be engaged in the care of his estate, in public services to his community and his country, and in the proper maintenance of his aristocratic station. His interest will be most properly concerned

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[17] *Ibid.,* §§ 33, 45, and 52.

[18] *Ibid.,* § 36.

> . . . in moral and political knowledge; and thus the studies, which more immediately belong to his calling, are those which treat of virtues and vices, of civil society, and the arts of government; and will take in also law and history.[19]

Although Locke adopted this principle of utility, it would be hasty to conclude that the tutor will with great diligence stuff the child's memory with useful knowledge. Far from it. The right attitude of the pupil toward knowledge is more important by far than possession of information. The tutor's business is not so much to teach him all that is knowable, as to develop in him a love and esteem of knowledge; and to put him in the way of knowing and improving himself when he has a mind to it.

It would seem that Locke had chiefly in view exploratory or orientation courses. An introduction on a broad scale is to be given into many fields. This is to be done for several reasons. First, it is intended to furnish a general acquaintance with the subjects of human knowledge, leaving detailed study of any subject to the later interest of the student. Another purpose is to avoid the narrowness and inflexibility of mind which comes when only one subject is studied. Variety makes for mental freedom and elasticity. Locke's view on this matter is highly interesting, especially since he has by some writers been considered the advocate of the doctrine of mental discipline. On this point he wrote: [20]

> The business of education, as I have already observed, is not, as I think to make them perfect in any one of the sciences, but so to open and dispose their minds, as may best

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[19] Locke, John, *Some Thoughts Concerning Reading and Study for a Gentleman.*

[20] Locke, John, *Conduct of the Understanding,* § 19.

> make them capable of any, when they shall apply themselves to it. If men are, for a long time, accustomed only to one sort or method of thought, their minds grow stiff in it, and do not readily turn to another. It is, therefore, to give them this freedom, that I think they should be made to look into all sorts of knowledge, and exercise their understandings in so wide a variety and stock of knowledge. But I do not propose it as a variety and stock of knowledge, but a variety and freedom of thinking; as an increase of the powers and activity of the mind, not as an enlargement of its possessions.

Disgust with humanistic training. Locke did not hesitate to express profound disgust with the entire program of humanistic training.[21]

> When I consider, what ado is made about a little *Latin* and *Greek*, how many years are spent in it, and what a Noise and Business it makes to no Purpose, I can hardly forbear thinking that the Parents of Children still live in fear of the Schoolmaster's Rod.

With the utmost freedom he used the paring knife on the traditional curriculum. Though he had been a tutor in Greek during his later years at Oxford, he boldly proposed to do away with all study of this language, so far as the general education of the young gentleman is concerned. Should he aspire to become a scholar, the gentleman can study Greek in his university course. Latin is to be retained, but its heart as a humanistic study is cut out. Locke had no use for Latin eloquence nor for any of those practices which fostered it, such as Latin themes, versification, declamations, and the memorizing of Ciceronian phrases. Even grammar, that age-old bugbear, is not to be spared. One thing only is to be secured, the ability to read a Latin author. Locke was quite emphatic as to the limitation of this subject. He did not want a boy to be able to speak or write Latin, but merely to have the ability to read it: [22]

> You may insist on it, if it will do any good, that you have no Design to make him either a *Latin* Orator or Poet, but barely would have him understand perfectly a Latin Author.

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[21] Locke, John, *Some Thoughts Concerning Education,* § 147.
[22] *Ibid.,* § 170.

Rhetoric and logic are likewise to be cut out entirely, because they are of little advantage, for he declared: [23]

> I have seldom or never observed any one to get the Skill of Reasoning well, or speaking handsomely, by studying those Rules, which pretend to teach it.

Disputation, another of the medieval arts, fell under his severest censure. He objected to it for five reasons: (1) It tends to make students opinionated. (2) It develops an attitude of questioning everything just for the sake of appearing agnostic. (3) It develops a pride in contradicting others. (4) To overcome one's rival comes to be the chief end sought, rather than the discovery of truth. (5) It leads to captiousness and a fallacious use of words.

As already mentioned, Locke had a profound distrust of even the use of words. This distrust extended likewise to the study of rhetoric.[24]

> It is evident how much men love to deceive, and be deceived, since rhetoric, that powerful instrument of error and deceit, has its established professors, is publically taught, and has always been had in great reputation; and I doubt not but it will be thought a great boldness, if not brutality, in me to have said this much against it. Eloquence, like the fair sex, has too prevailing beauties in it, to suffer itself ever to be spoken against. And it is in vain to find fault with those arts of deceiving, wherein men find pleasure to be deceived.

Language study. The English language is to come into its own and to be studied daily so that the child will write and speak well. The primary reading will be Aesop's fables, especially the pictorial edition, and the Bible. French will be acquired early through the conversational method, by the employment of a governess. Latin will be learned in the same way, but after French.

Other studies. Locke recognized the value of drawing. It is especially helpful in fixing the images of objects in memory. In addition to ordinary writing, he advocated learning shorthand. Other subjects of great importance are geography, geometry, chronology, anatomy, and a knowledge of things. Of history he is unusually appreciative: [25]

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[23] *Ibid.*, § 188.

[24] Locke, John, *Essay Concerning Human Understanding,* Book III, Chap. X, § 34. See also *Some Thoughts Concerning Education,* § 188.

> As nothing teaches, so nothing delights more than History. The first of these recommends it to the Study of grown Men, the latter makes it the fittest for a young Lad. . . .
>
> History is the great Mistress of Prudence and civil Knowledge, and ought to be the proper study of a Gentleman, or Man of Business in the World.

Among the higher studies Locke commended especially natural philosophy, ethics, and psychology. In a rather apologetic spirit, he recommended some manual arts—especially carpentering or cabinet-making, and also gardening—and painting as a fine art. These are to be pursued for the purpose of recreation and for their effect on health, but, in addition to these values, they will be beneficial for a gentleman in directing his estate.

Locke and the education of the lower classes. In his capacity as a commissioner of the board of trade appointed by the king, Locke drew up a scheme of poor relief in which he suggested that children of the indigent be taken from their parents and kept in working schools from the time they are three years old until they are fourteen. After their residence in working schools, they are to be apprenticed. Advantages claimed for this scheme, according to Locke, are: (1) Mothers are set free to work. (2) Children will be better disciplined, and "from infancy inured to work." (3) The plan is economical. Children at working schools are to have bread to eat, and in cold weather, "if it be thought needful, a little warm watergruel." They are to be taught religion and the simpler handicrafts. Locke proposed a similar plan for "the children of the labouring people" in England.

Locke's theories on education are far inferior to the best practices of the dissenting academies of his day, and likewise to the plans of Vives, Mulcaster, and Comenius. They are of interest because they reflect the views of a deep thinker respecting the education of the group with which he was associated; and because they reflect, too, the shortcomings, as the 17th century came to a close, of the educational system of the English ruling classes. Tutors, grammar schools, and universities were to have little part in the reformation of education in Great Britain and North America; they were, as a matter of fact, actively to oppose this reformation.

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[25] *Some Thoughts Concerning Education,* §§ 184 and 182.

IV. The Doctrine of Formal Discipline

Did Locke advocate the doctrine of formal mental discipline? For some years a controversy was carried on, among American educators, as to whether or not Locke upheld the doctrine of formal mental discipline. This clash of interpretation in the field of education is the more interesting in view of the disagreements which sprang up in regard to Locke's other theories. A number of contending schools of thought trace their origin to the ideas of this many-sided thinker. These divergent interpretations are the more curious when one recalls how he strove with all his might and with singular sincerity of soul to be absolutely clear and impartial and to state the truth precisely as he experienced it. In view of the importance which the doctrine of formal mental discipline has had in American educational discussion, it is necessary to undertake a thorough analysis of Locke's position.

Dr. Paul Monroe is the first, so far as can be found, to classify Locke as the creator of the disciplinary theory of education. His interpretation is based on the view which Locke held that all "virtues and powers" are "worked into" the individual "from the outside through the formation of habit." Monroe's rather emphatic statement is as follows: [26]

> The one fundamental thing that makes Locke a representative of the disciplinary education throughout is his idea of the human mind as a mere blank to begin with, that has its virtues and powers worked into it from the outside through its formation of habits. . . . Development, according to

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[26] Monroe, Paul, *Text-Book in the History of Education,* p. 513. New York, Macmillan, 1919.

> Locke, came only through the formation of habit through discipline.

Dr. Monroe's interpretation, in attributing to Locke the idea that all "virtues and powers" are "worked into" the child from the outside, is open to question. He did hold that man's concrete experiences—that is to say, his sensory images—are the sources of all his knowledge of external objects. Furthermore, he did hold that habits are formed by training. But these facts do not contradict his belief that there are also internal mental factors which are innate. First, there are the activities of the mind itself, the mental faculties, which Locke accepted without question. Secondly, there are the emotions, propensities, and other tendencies to action; these are the basis of habit and of all the other powers which man acquires. Locke fully recognized the internal as well as the external factors in growth. The only things that come from the outside are the impressions that constitute the basis of ideas.

Just what part do these inner powers play in the making of man? To this question Locke gave contradictory answers. In *Some Thoughts Concerning Education,* he wrote: [27]

> I think I may say, that of all the Men we meet with, nine Parts of ten are what they are, good or evil, useful or not by their Education. 'Tis that which makes the great difference in Mankind.

Later, in the essay *Conduct of the Understanding,* he attributed the differences in men to natural endowment: [28]

> There is, it is visible, great variety in men's understandings, and their natural constitutions put so wide a difference between some men in this respect, that art and industry would never be able to master, and their very natures seem to want a foundation to raise on it that which other men easily attain unto. Amongst men of equal education there is great inequality of parts.

Not only has the misinterpretation of Locke's views of human nature been faulty in its basis, but his psychology and theory of education are in direct opposition to the theory of formal mental discipline.

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[27] Locke, John, *Some Thoughts Concerning Education,* § 1.

[28] Locke, John, *Conduct of the Understanding,* § 2.

Memory and sense perception. In the realm of mental discipline it has been universally assumed that the practice of memorizing increases the power of memory. The actor who learns his role by heart will so strengthen his ability that it will become easier to learn every new play. Locke was the first psychologist to deny this ancient belief in the discipline of the faculty of memory. He very severely took to task the teachers of his day who required much memory work. He held that memory is due primarily to the capacity of the brain to retain the impressions that are made upon it, and that this power of retention cannot be increased by practice. He claimed: [29]

> Strength of Memory is owing to a happy constitution, and not to any habitual improvement got by exercise.

Another ancient fiction held that the habit of perception increases the power to perceive. It is worthy of note that this idea is absolutely foreign to the psychology of Locke. His firm belief that the mind is entirely passive in the reception of impressions could not harmonize with any possible strengthening of such power.

Training of attention. Next to the belief in memory training, the assumption most universal has been that the mind has a general power of attention which can be strengthened by training. It would seem from the following passage that Locke shared this view, and placed the greatest emphasis upon it: [30]

> It is of great Moment, and worth our Endeavours, to teach the Mind to get the Mastery over itself, and to be able, upon Choice, to take itself off from the hot Pursuit of one Thing, and set itself upon another with Facility and Delight, or at any time to shake off its Sluggishness, and vigorously employ itself about what Reason, or the Advice of another shall direct. This is to be done in children, by trying them sometimes, when they are by Laziness Unbent, or by Avocation bent another Way, and endeavouring to

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[29] Locke, John, *Some Thoughts Concerning Education,* § 176.

[30] *Ibid.,* § 75.

> make them buckle to the thing propos'd. If by this Means the Mind can get an Habitual Dominion over itself, lay by *Ideas* or Business as Occasion requires, and betake itself to new and less acceptable Employments without Reluctancy or Discomposure, it will be an advantage of more Consequence than Latin or Logick or most of those Things Children are usually requir'd to learn.

Although this statement apparently upholds the idea of formal discipline and perhaps suggests also the transfer of power, on closer inspection it will be found that this interpretation is only partly true. What Locke is seeking is, not so much the power to concentrate attention upon some idea, but rather the capacity to switch attention from one subject which is particularly agreeable to another subject that is not so agreeable. It is this power of switching, or redirecting, the attention which frees the mind from the domination of small ideas that possess and ride the thought. Mental control is established by means of training in directing thought. At any rate, however, Locke does not suggest that a power of attention can be increased by immersion in, or concentration upon, some one line of thought.

The focusing of attention is to be brought about by an appeal to the child's sense of usefulness and power: [31]

> The great Skill of a Teacher is to get and keep the Attention of his Scholar; whilst he has that, he is sure to advance as fast as the Learner's Abilities will carry him; and without that, all his Bustle and Pother will be to little or no Purpose. To attain this, he should make the child comprehend (as much as may be) the Usefulness of what he teaches him, and let him see, by what he has learnt, that he can do something which he could not do before; something, which gives him some Power and real Advantage above others who are ignorant of it.

Learning to be pleasurable. So far as early childhood is concerned, learning is never to be by compulsion. In this Locke was as far from the disciplinary theory as it is possible to be. Everything is to be a sport, play, gaming—never a task, or a serious business, or a hardship. If anything for which he has no special interest is to be learned, the child may be "tricked" or "cheated" into learning it by some game, but never forced or compelled to learn it. Learning the alphabet and reading are to be accomplished by such games and plays.[32]

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[31] *Ibid.*, § 167.

> All their innocent Folly, Playing, and *childish Actions are to be left perfectly free and unrestrain'd.* . . . This gamesome Humour, which is wisely adopted by Nature to their Age and Temper, should rather be encourag'd to keep up their Spirits, and improve their Strength and Health, than curb'd and restrain'd; and the chief Art is to make all that they have to do, Sport and Play too. . . .
>
> There may be Dice and Play-things, with the Letters on them to teach children the *Alphabet* by playing; and twenty other ways may be found, suitable to their particular Tempers, to make this kind of *Learning a Sport to them.* . . .
>
> Thus children may be cozen'd into a Knowledge of the Letters; be *taught to read,* without perceiving it to be anything but a Sport, and play themselves into that which others are whipp'd for. Children should not have anything like Work, or serious, laid on them; neither their Minds, nor Bodies will bear it.

Reading to be made easy. So far was Locke from advocating the theory of discipline that he insisted upon making even reading pleasant.[33]

> Thus much for *learning to read,* which let him never be driven to, nor chid for; cheat him into it if you can, but make it not a Business for him. 'Tis better it be a year later *before he can read,* than that he should this way get an Aversion to Learning.

Compulsion breeds aversion. The secret of Locke's view of learning lies in his appreciation of the fact that only those activities that bring satisfaction are spontaneously repeated. He knew that, when boys are punished to make them learn, their aversion to learning is increased. Consequently he opposed forcing the child.[34]

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[32] *Ibid.,* §§ 63, 148, and 149.
[33] *Ibid.,* § 155.
[34] *Ibid..* §§ 73–74.

> None of the Things they are to learn should ever be made Burthen to them, or impos'd on them as a *Task*. Whatever is so propos'd, presently becomes irksome; the Mind takes an Aversion to it, though before it were a Thing of Delight or Indifferency. . . . And indeed it would be ridiculous, when Compulsion and Blows have rais'd an Aversion in the Child to his Task, to expect he should freely of his own accord leave his Play, and with Pleasure count the Occasions of learning; whereas, were Matters order'd right, learning anything they should be taught might be made as much a Recreation to their Play, as their Play is to their Learning.

Times of special readiness. Locke was the first writer to point out that there are times of special readiness or spontaneous interest in certain activities. This must be considered in connection with his psychology of inner propensities and native activities. He believed, as did William James, the psychologist, that it is best to strike while the iron is hot: [35]

> They should seldom be put about doing even those Things you have got an Inclination in them to, but when they have a Mind and *Disposition* to it. He that loves Reading, Writing, Music, etc., finds yet in himself certain Seasons wherein those Things have no Relish to him; and if at that Time he forces himself to it, he only bothers and wearies himself to no purpose. So it is with Children. This Change of Temper should be carefully observ'd in them, and the favourable *Seasons of Aptitude and Inclination* be heedfully laid hold of.

Locke used the phrase "in tune" to illustrate this moment of special readiness for response, and stated that far more can be accomplished when the mind is in "hot pursuit of one thing." [36]

> A great deal of Time and Tiring would be sav'd. For a Child will learn three times as much when he is *in Tune*, as he will with double the Time and Pains when he goes awkwardly or is dragg'd unwillingly to it.

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[35] *Ibid.*, § 74.

[36] *Ibid.*, § 74.

On returning to this subject, he stated as an accepted principle: [37]

> The fittest Time for Children to learn any Thing, is, when their *Minds* are *in Tune, and well dispos'd* to it.

General potentialities and specific habits. The theory of formal discipline is based upon the view that the mind is composed of certain general faculties, such as memory, attention, perception, and reasoning. The formal disciplinarians assume that, by exercising these faculties upon some particular subject, such as the Latin language or mathematics, the faculty is strengthened and increased in power. This increased power can then be transferred to the learning of any other subject with greater ease.

The question arises: Did Locke believe in general powers of mind which can be trained to increase efficiency in learning all kinds of subjects? A careful examination of his works does not bear out the conviction that he thought of the mind in this way.

Locke evidently believed in capacities which can be trained to certain specific habits of action.[38]

> It is true, that he that reasons well in any one thing has a mind naturally capable of reasoning well in others, and to the same degree of strength and clearness, and possibly much greater, had his understanding been so employed. But it is as true that he who can reason well today, about one sort of matters, cannot at all reason today about others.
>
> The faculties of our souls are improved and made useful to us just after the same manner as our bodies are. Would you have a man write or paint, dance or fence well, or perform any other manual operation dexterously and with ease, let him have ever so much vigour and activity, suppleness and address naturally, yet nobody expects this from him, unless he has been used to it, and has employed time and pains in fashioning and forming his hand, or outward parts, to these motions. Just so it is in the mind: would you have a man reason well, you must use him to it betimes, exercise his mind in observing the connection of ideas, and following them in train. . . .

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[37] *Ibid.*, § 75.

[38] Locke, John, *Conduct of the Understanding*, §§ 6 and 3.

> He that will inquire out the best books in every science, and inform himself of the most material authors of the several sects of philosophy and religion, will not find it an infinite work to acquaint himself with the sentiments of mankind, concerning the most weighty and comprehensive subjects. Let him exercise the freedom of his reason and understanding in such a latitude as this, and his mind will be strengthened, his capacity enlarged, his faculties improved; and the light, which the remote and scattered parts of truth will give to one another, will so assist his judgment, that he will seldom be widely out, or miss giving proof of a clear head and a comprehensive knowledge.

Drawing, writing, knitting, playing the piano, and similar activities are all dependent upon skillful movements of the fingers. The original power, or potentiality, for acquiring any of these is present in the child. But the acquiring of one of these by no means gives skill in the performance of the others, without exercise and habituation. This same principle, Locke declared, holds for the mind in its various operations. There is no general capacity for reasoning, but the capability to reason with skill along any one line must be acquired as a special skill.

Training and transfer of reasoning power. The final stand of those who regard Locke as the originator of the doctrine of formal discipline has to do with the training of the reasoning power. The basis for the argument has been shifted by Dr. F. P. Graves from the doctrine of habit and *tabula rasa* to the training of the reason as given in the essay *Conduct of the Understanding*. Dr. Graves states: [39]

> His peculiar point of view is exhibited in the *Conduct;* which was originally intended as an additional chapter and an application of the *Essay*. . . . The idea he gives here of training the mind by means of mathematics and other subjects so as to cultivate "general power"; together with his "denial of desires" in moral education and the "hardening process" in physical training, would seem to make Locke the first writer to advocate the doctrine of "formal discipline."

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[39] Graves, Frank Pierpont, *History of Education during the Middle Ages and the Transition to Modern Times,* p. 309. New York, Macmillan, 1920.

This new position in regard to Locke as an advocate of formal mental discipline requires a full examination.

Method and development of knowledge. To understand clearly Locke's views in regard to the training of the rational faculty, it is essential to know the larger problem on which his mind was engaged. As noted in an earlier chapter, the intellectual world of the 17th century was in a chaotic condition. It was clear that the Scriptures and ancient literatures were no longer the satisfactory guides to all truth. Reason had triumphed over revelation and ancient authority so far as nature and ethics were concerned. But a new problem had arisen as to what was the true method of advancing human knowledge. The empirical, observational method of Bacon and the rationalistic method of the Cartesians confronted each other with rival claims. Each had strong arguments in its favor, and already each had justified its claims by solid contributions to human knowledge. However, in the end, the honors went to the rationalistic school, owing to its alliance with the mathematical sciences.

The outstanding trends of this period were: first, the recognition of mathematics as the most certain and indubitable human science; and second, the application of the mathematical method to other fields. The direct application of the formulas of mathematics to astronomy and physics produced astounding results. In a series of brilliant steps, Kepler, Galileo, and finally Newton revealed the fundamental nature of the physical universe.

The grand achievements in the realm of physical sciences challenged thinkers in other fields. The search began for a method which would bring to religion, ethics, government, and various lines of thought something of the same sense of certainty and incontestable assurance that had been found in "celestial mechanics." This attempt led to an effort to connect mathematics with the less definite sciences. Locke was not so much interested in the development of these physical sciences as he was intent upon securing more definite and certain knowledge for the guidance of man's conduct as a moral, religious, and civic being.

Use of the geometric method. Descartes had made important additions to geometry, and had successfully applied mathematical principles in the solution of problems in physics.

But he desired to reach equal certainty and assurance in the field of metaphysics. He regarded geometry as the ideal of the rational method of procedure, since it begins with unquestionable axioms and, by a series of steps, leads the mind to an inescapable conclusion. In every step the reasoning is clear, certain, necessary. Descartes attempted to carry over this same procedure to the solution of the still more weighty problems of philosophy.

Descartes' use of the geometric method became popular among scholars of varied fields. Spinoza, the great Jewish scholar, employed this method in the discussion of ethics; Pufendorf, a German, used it in law and government; Christian Wolff and others attempted its use in theology and philosophy. Numerous thinkers resorted to its use in other fields of thought. In an era when the human mind was shaking itself free from theological and traditional preconceptions, this geometrical procedure appeared as the ideal method.

Locke and the mathematical method. That Locke felt the need of a better method than any in use in the field of religion and ethics is clear from his examination of the nature of the understanding. In the course of this examination he gave special attention to the improvement of knowledge. In many passages of his works he commended the mathematical method, and expressed an eager desire that the accuracy and definiteness of such subjects might be transferred to the more inexact fields of knowledge in which he was especially interested.[40]

> We must, therefore, if we will proceed as reason advises, adapt our methods of inquiry to the nature of the ideas we examine, and the truth we search after. General and certain truths are only founded in the habitudes and relations of abstract ideas. . . . By what steps we are to proceed in these, is to be learned in the schools of the mathematicians, who, from very plain and easy beginnings, by gentle degrees, and a continued chain of reasonings, proceed to the discovery and demonstration of truths that appear at first sight beyond human capacity. The art of finding proofs, and the admirable methods they have invented for the singling out, and laying in order, those intermediate ideas that demon-

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[40] Locke, John, *Essay Concerning Human Understanding,* Book IV, Chap. 12, § 7.

> stratively show the equality or inequality of unapplicable quantities, is that which has carried them so far, and produced such wonderful and unexpected discoveries: but whether something like this, in respect of other ideas, as well as those of magnitude, may not in time be found out, I will not determine. This, I think, I may say, that if other ideas, that are the real as well as nominal essences of their species, were pursued in the way familiar to mathematicians they would carry our thoughts farther, and with greater evidence and clearness, than possibly we are apt to imagine.

This method of mathematical reasoning, Locke recognized, might be overdone and used in ways that would not be suitable. He pointed out some of these limitations of the mathematical method:[41]

> Some men have so used their heads to mathematical figures, that, giving a preference to the methods of that science, they introduce lines and diagrams into their study of divinity, or political inquiries, as if nothing could be known without them; and others, accustomed to retired speculations run natural philosophy into metaphysical notions, and the abstract generalities of logic; and how often may one meet with religion and morality treated in the terms of the laboratory, and thought to be improved by the methods and notions of chemistry? But he that will take care of the conduct of his understanding, to direct it right to the knowledge of things, must avoid those undue mixtures, and not, by a fondness for what he has found useful and necessary in one, transfer it to another science, where it serves only to perplex and confound the understanding.

From these passages it may be clearly assumed that Locke believed the mathematical method had a vital contribution to make to the advancement of human knowledge, but that many had used this method in the wrong way. Questions arise, however, as to the effect of the study of mathematics upon the rational faculty. Does such study increase the power of reasoning? Can such increased power be transferred to other subjects of study? Before considering Locke's answers to these questions it will be advisable to see what he has to say, in general, in regard to the development of the reason.

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[41] Locke, John, *Conduct of the Understanding,* § 24.

Intellectual capacities from exercise. Locke firmly believed all intellectual capacities are the result of practice. The humorist, poet, jurist, and scholar are not born but made. Even the ability to reason well is produced in the same manner. Exercise, cultivation, and habit count for everything, as the following citations indicate:[42]

> We are born with faculties and powers capable almost of any thing, such at least as would carry us farther than can easily be imagined: but it is only the exercise of those powers, which gives us ability and skill in any thing, and leads us toward perfection.
>
> A middle-aged ploughman will scarce ever be brought to the carriage and language of a gentleman, though his body be as well proportioned, and his joints as supple, and his natural parts not any way inferior. The legs of a dancing-master, and the fingers of a musician, fall as it were naturally, without thought, or pains, into regular and admirable motions. Bid them change their parts, and they will in vain endeavour to produce like motions in the members not used to them, and it will require length of time and long practice to attain but some degrees of a like ability. What incredible and astonishing actions do we find rope dancers and tumblers bring their bodies to! Not but that sundry, in almost all manual arts, are as wonderful. . . . All these admired motions, beyond the reach and almost conception of unpractised spectators, are nothing but the mere effects of use and industry in men, whose bodies have nothing peculiar in them from those of the amazed lookers-on.
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> As it is in the body, so it is in the mind: practice makes it what it is; and most even of those excellencies, which are looked on as natural endowments, will be found, when examined into more narrowly, to be the product of exercise, and to be raised to that pitch only by repeated actions. . . . To what purpose all this, but to show that the difference, so observable in men's understandings and parts, does not arise so much from their natural faculties, as acquired habits. . . .
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> Why, then do they not make use of sure and unquestionable principles, rather than rest on such grounds as may deceive them, and will, as is visible, serve to support errour as well as truth?

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[42] *Ibid.*, §§ 4 and 6.

> To this I answer, the reason why they do not make use of better and surer principles is because they cannot: but this inability proceeds not from want of natural parts (for those few, whose case that is, are to be excused), but for want of use and exercise. Few men are, from their youth, accustomed to strict reasoning, and to trace the dependence of any truth in a long train of consequences, to its remote principles, and to observe its connexion; and he that by frequent practice has not been used to this employment of his understanding, it is no more wonder that he should not, when he is grown into years, be able to bring his mind to it, than that he should not be, on a sudden, able to grave or design, dance on the ropes, or write a good hand, who has never practised either of them.

From this discussion it is clear that Locke believed skill in every particular line must be acquired separately.

Mathematics and the training of reason. One comes now to the most crucial point in the question of Locke's view of formal discipline. Did he believe that the study of mathematics increases the power to reason, and that this power can then be transferred to reasoning on other subjects?

In a number of passages Locke discussed the relation of mathematics to the improvement of reasoning ability. He attributed many values to the study of mathematics: (1) This study makes children rational creatures. The potentiality of reasoning is present in the child as a seed, but he becomes consciously rational when, through the study of mathematics, he sees the logical connection of ideas: [43]

> Would you have a man reason well, you must use him to it betimes, exercise his mind in observing the connexion of ideas, and following them in train. Nothing does this better than mathematics; which, therefore, I think should be taught all those who have the time and opportunity; not so much to make them mathematicians, as to make them reasonable creatures; for though we all call ourselves so, because we are born to it, if we please; yet we may truly say, nature gives us but the seeds of it; we are born to be, if we please, rational creatures; but it is use and exercise only that makes us so, and we are, indeed, so no farther than industry and application has carried us.

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[43] *Ibid.*, § 6.

(2) The study of mathematics makes the mind aware of its own weakness, and sets up a critical attitude toward reasoning. (3) It shows the necessity of analyzing any problem into its constituent elements. (4) In mathematical reasoning, all irrelevant matter is clearly excluded. (5) Mathematical reasoning emphasizes perfect impartiality. The results of any reasoning in geometry or algebra cannot be influenced by selfish or individual desires. (6) All the results are accompanied by a feeling that they are exact and necessary. (7) Mathematics proceeds by a connected series of propositions, by long trains of thought. To this characteristic, Locke attached the greatest importance. He dwelt upon it frequently, as the following passages show: [44]

> He never troubles himself to seek out methods of improving his mind, and lives all his life without any notion of close reasoning, in a continued connection of a long train of consequences from sure foundations; such as is requisite for the making out and clearing most of the speculative truths most men own to believe, and are most concerned in. . . .
>
> In many cases it is not one series of consequences that will serve the turn, but many different and opposite deductions must be examined and laid together, before a man can come to make a right judgment of the point in question.
>
> This, therefore, it would be well if men's minds were accustomed to, and that early; that they might not erect their opinions upon one single view, when so many others are requisite to make up the account, and must come into the reckoning, before a man can form a right judgment.

What is transferred? In the study of mathematics, precisely what is transferred? In the following passage Locke referred directly to this question: [45]

> I have mentioned mathematics as a way to settle in the mind a habit of reasoning closely and in train, not that I think it necessary that all men should be deep mathematicians, but that having got the way of reasoning, which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge, as they shall have occasion. For, in all sorts of reasoning, every single argu-

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[44] *Ibid.*, §§ 6 and 7.

[45] *Ibid.*, § 7.

> ment should be managed as a mathematical demonstration: the connexion and dependence of ideas should be followed, till the mind is brought to the source on which it bottoms, and observes the coherence all along.

Careful study of this quotation from the *Conduct of the Understanding*, both as to the statements made in it, and as to the general use of the geometric method, leads to but one interpretation. It is not some mysterious power or habit of reasoning which is built up and transferred to other subjects. It is the method, the closely connected reasoning procedure, which is held as a model to be utilized in all other subjects.

This interpretation is borne out by several other references which Locke made to the training of the rational nature. In *Some Thoughts Concerning Education*, he advised: [46]

> If you would have your Son *reason well*, let him read *Chillingworth*.

Again, some years later, in a fragment on *Reading and Study*, he wrote: [47]

> Besides perspicuity, there must be also right reasoning; without which, perspicuity serves but to expose the speaker. And for the attaining of this, I should propose the constant reading of Chillingworth, who, by his example, will teach both perspicuity, and the way of right reasoning, better than any book that I know; and therefore will deserve to be read upon that account over and over again.

These works of Chillingworth which Locke so highly commended for the method of reasoning are not mathematical but theological. Chillingworth was a leading advocate of natural religion, and his method of argumentation exhibited in a remarkable degree those qualities of calm, fair-minded, well-rounded, reflective reasoning which Locke admired in mathematics.

Summary. Summing up the discussion as to whether

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[46] Locke, John, *Some Thoughts Concerning Education,* § 188.

[47] Locke, John, *Some Thoughts Concerning Reading and Study for a Gentleman.*

Locke was an advocate of formal discipline, one may list the following contrasts:

(1) In methods, the disciplinary theory places the emphasis upon the mastery of difficulties, the suppression of desires, and the submission to external compulsion. Locke, on the contrary, insisted that learning be made easy, simple, and a play or sport; that the child's spontaneous interests be recognized; and that under no circumstances should learning be a burden or task.

(2) The disciplinary theory selects the subjects of the curricula on the ground of the effects each will exert upon the training of the mental faculties. Locke, on the other hand, would teach only what is useful for practical life and valuable for conduct. He abandoned Greek, and cut out most of the training in Latin, both of which studies were thought to have special power to strengthen the mind.

(3) The disciplinary view concentrates upon a few subjects and teaches these intensively. It is interested, not so much in what is learned, as in how well it is learned. Locke would introduce the pupil to a great variety of subjects, and would have none of them studied very thoroughly, except perhaps the use of the English language.

(4) Formal discipline leans toward memorization and authoritative instruction; Locke appealed for the development of the reason and the exercise of the judgment of the individual.

(5) Formal discipline believes in the strengthening of the memory through learning by rote. Locke deplored this practice of memorization, and held that the power of retention could not be increased.

(6) Formal discipline holds that there are general mental faculties which can be increased. Locke believed that a general capacity exists in the child, but that specific habits or skills are developed by exercise. Each skill must be acquired independently, and not by a process of transferring power.

(7) Formal discipline claims that there is a transfer of mental power—as, for example, from the study of mathematics to the study of geography. Locke asserted that mathematics sets up a model method of reasoning, and that this method may well be copied in all other forms of reasoning.

The effort which has been made by some writers to give Locke credit for the disciplinary view of education, which has dominated English schools, need not be considered at length. The fact is that Locke's view of education, so far as emphasis upon virtue and breeding is concerned, was merely an expression of the English point of view as it had evolved for generations. Similarly, it is without any foundation in fact that the Classicists, in taking refuge in the doctrine of formal discipline to retain their hold upon education, found their support in the system of John Locke. Had they actually sought assistance from this leader of utilitarianism, they would have received but cold comfort.

Followers of Locke. The effects of Locke's ideas were profound and widespread. In philosophy, his views aroused the speculative activity of David Hume, and also of Bishop Berkeley, in England. In France his ideas caused the Enlightenment; and in Germany they started the great movement of idealistic philosophy of Kant, Fichte, and Hegel. In education, his views had similar far-reaching effects. Rousseau, Basedow, Pestalozzi, and Herbart carried his philosophic principles into education.

2. The Enlightenment

Revolt and progress. The drama of modern life and educational reform shifted to France during the 18th century. Here, as nowhere else, the stage was set for highly spectacular as well as tragic developments. Some of the most creative movements of western civilization emerged from the seething political and social welter of French life. In certain respects, the French had been more progressive than their neighbors; in other matters, they were far less advanced. It was this anomalous condition which made that land the battlefield of revolution. Here took place the powerful revolt against accepted traditions and institutions: against the prolonged domination of the ancients in literature, art, and philosophy; against the church and its formal interpretations of Christianity; against absolutism in government; and against highly artificialized social and economic conditions and modes of education. Out of this ocean of conflicting currents there was destined to emerge a deeper knowledge of man and, in consequence thereof, a new philosophy of human life and social institutions. What, one is driven to inquire, were the factors which produced results so momentous to the human race?

The war of the ancients and the moderns. One of the early signs that a new age was about to dawn is found in the revolt against the domination of the classical literatures. In 1687, Charles Perrault (1628–1703) wrote a comparison of the ancients and the moderns, in which he asserted the superiority of the latter.[48] This was the signal for a spirited war between the two camps. The traditional practice of authors of imitating classical models was no longer adhered to. French writers like Corneille, Racine, and Molière boldly struck forth into new paths and created literary models of their own. Fontenelle pointed out that the unreasonable admiration of the ancients was an obstacle to progress. Literature, like art, to be creative and living, must be at liberty to follow its own genius.

Rationalism and Empiricism. There have always been recognized three sources from which man has acquired knowledge: the senses, reason, and faith. Every age and, in fact, every individual, strikes a working balance between these three, so far as light by which to live is concerned. The Middle Ages accepted everything on revelation; that was the era of faith and credulity. The new conception, which so sharply aroused the French mind, was the combination of the rationalistic doctrines of Descartes with the Sensationalism of John Locke. This combination was introduced into French circles by Voltaire, and was more completely elaborated by a group of literary men usually known as the *Encyclopedists* or *Philosophes.*

The general statement of the new creed, in concise words, is this: [49]

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[48] Perrault's chief claim to fame rests on another contribution, his Mother Goose stories. He was the first to put into literary form the oral traditions of Sleeping Beauty, Little Red Riding Hood, Puss-in-Boots, Cinderella, Tom Thumb, and so on. He did not create these tales; but, by publishing them in permanent form, he conferred an incalculable boon upon nursery and kindergarten education.

[49] Lowell, Edward J., *The Eve of the French Revolution*, p. 61. Boston, Houghton Mifflin, 1892.

> We know truth only by our reason. That reason is enlightened only by our senses. What they do not tell us we cannot know, and it is mere folly to waste time in conjecturing. Imagination and feeling are blind leaders of the blind. All men who pretend to supernatural revelation or inspiration are swindlers, and those who believe them are dupes.

Led by this new philosophy, the 18th century abandoned revelation for reason and sensationalism. The leaders of this movement were Diderot, chief editor of the encyclopedia, and Condillac, Helvetius, D'Alembert, Holbach, and La Mettrie. They were not so much radicals as worshippers of clarity, method, order, and enlightenment; and their attitude was characterized by intolerance, assurance, prodigious conceit, arrogance, and satire.

The worship of reason. Descartes had affirmed three positive axioms which were universally accepted by thinking men. These were: (1) the supremacy of reason; (2) the invariability of the laws of nature; and (3) an exact method of testing or verifying truth. These ideas shook the thrones from which authority and tradition had so long tyrannized over the minds of men. The Encyclopedists everywhere came to have a supreme faith in the ability of human reason and understanding to discover all truth, to settle all problems, to find out all laws, and, by these, to bring in an era of human happiness. So illuminating was the effect of this rationality that Voltaire concluded reason "was born in England within this century."

The wonderful achievements of human reason during the 16th and 17th centuries in mathematical and physical sciences seemed to justify the abounding confidence which philosophers and scientists now placed in her powers. The work of Copernicus, Galileo, Leibnitz, and Newton formed the most sublime conquest of ignorance ever made by the human spirit. The indubitable certainty of their results stood in sharpest contrast with the uncertainty and guesswork of ethical, political, and religious thinkers. The assurance of science made an utterly different impression from that of dogmatism and obscurantism in the other fields of thought. The great scientists began to enjoy unprecedented popularity. Kings and parliaments granted many of them handsome subsidies to further their researches, and ample pensions to honor them. Men began to have an exalted pride in the accomplishments of human reason and a vaulting ambition to extend its triumphs.

What reason had accomplished in the world of physical nature, in laying bare the hidden laws of movement, they believed it could accomplish equally well in other fields. An exhalted confidence sprang up in the ability of human reason to ferret out the laws which lie at the basis of human nature. If the starry heavens outside the earth and so far removed from it can be made to yield the secret laws of their conduct, surely human reason would be equally potent in laying bare the mechanism of human nature within. The central objective of the 18th century came thus to be the study of man himself. Pope celebrated this endeavor in his *Essay on Man*, in the well-known line: "The proper study of mankind is man."

Philosophers, psychologists, and students of government, law, society, religion, and education strove to reach a science of human nature. For the first time in centuries they believed that man was merely a product of nature, amenable to her laws and wholly explainable by human reason. The inclusion of man under the phenomena of nature was due to the Empiricism of John Locke. Hitherto man had been considered a product of two different worlds, the spiritual and the physical. Now he was found, as they thought, to be entirely a product of natural forces. The new psychology completely explained the origin of the soul and reason, which had previously led so many philosophers astray. Furthermore, it assumed that the science of human society could be deduced from a knowledge of the nature of man. Logically, it followed that, if the laws of human society were discovered, the control of society for its good would be readily attained, for the new knowledge of man could be used to mold his character and to improve his lot in life.

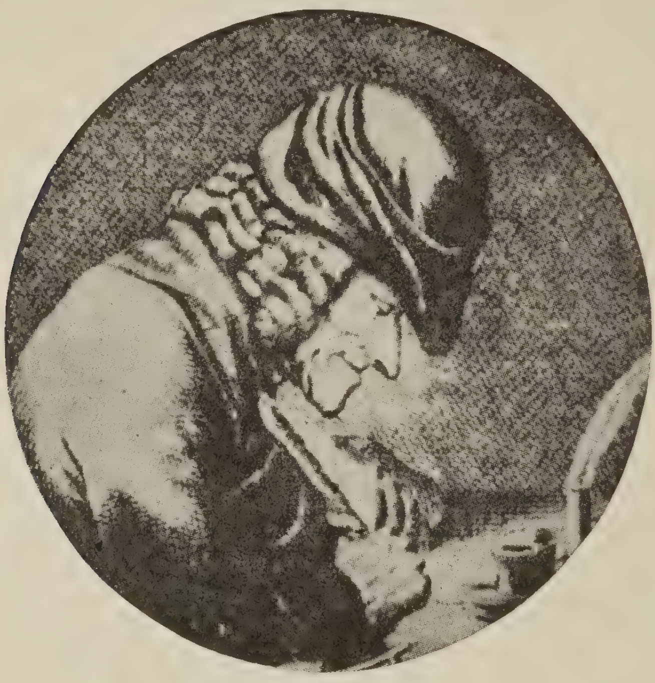
Empiricism and sensuality. Left to itself, the worship of reason would scarcely have brought about the convulsions of this ill-starred era. The explosive force was formed by the peculiar manner in which Rationalism was blended with the doctrine of Sensationalism. But a third important factor in the total situation was the fact that this new philosophic theory found a well-prepared soil in the universal sensuality, materialism, and atheism of French life. Philosophic minds were charmed with the new doctrine that all ideas have their origin in sense impressions. They hastened to draw forth all the implications which flow logically from this idea. Condillac, Helvetius, La Mettrie, and Holbach tried to show how every human faculty develops as the result of sensation. All thought is physical, for nothing exists which is not the result of material processes. Like the animals, man, too, is a machine; his thoughts and desires are due to the impressions which things make upon his sense organs. Memory, imagination, and even reasoning are explainable as complex processes of perception. The brain secretes thought as the liver secretes bile. Nothing, therefore, really exists except what is known by the senses. No other age has so blatantly denied the existence of the spiritual. It was an easy but shallow philosophy; nevertheless, it became an effective weapon to crush the life out of many of the greatest abuses that ever cursed mankind, and to bring in the new era of enlightenment.

The revolt against Christianity. No feature of the French Enlightenment aroused such passionate feeling as the revolt against religion. The clearest historical parallel is the recent attitude of the Soviet Republic of Russia. The two cases are much alike in their inner causes. Both were violent reactions against a hollow and degenerate form of Christianity, which had lost all touch with ethical principles; in both cases the church was united with a moribund and tyrannical political order. The opposition to the domination of the church and the dogmatism of religion was most powerful among the intelligentsia of France. It spread among the cultured classes in other countries, and filtered down to some degree among the common people. To appreciate the reasons for the reaction against religion, one must inquire into the deplorable conditions of the Church of France.

It will be recalled that, largely because of political machinations, France had turned savagely against the Calvinistic reformation of the 16th century. On the other hand, it yielded to the influence of the Catholic counter-reformation, and, as a consequence, the religious life and most of education came under the control of the Jesuit Order. The Jesuits utilized the power which they exerted over the French King and his agents to eliminate or subordinate all other religious influences to their own. At a time when the spirit of toleration was slowly putting on strength and gaining recognition in other lands, the King of France promulgated the diabolical revocation of the Edict of Nantes, in 1685. Persecution of French Protestants was again let loose. Not until 1762 did the last French execution for heresy take place. Christianity in France meant chiefly the Jesuit Order, which formed the most powerful element in contemporary Roman Catholicism. But Christianity also comprehended the ancient monastic system, which had not been overthrown, as it was in Teutonic lands, and the Church of France, which was loyal at once to the King and the Pope. The Gallic Church had gained a measure of independence but had become extremely formal and corrupt. Nowhere within the confines of the Roman Catholic territory at this time were abuses so heinous and unblushing as in France.

The representatives of Christianity in France were unalterably set against intellectual progress and enlightenment. The close alliance of church and state had produced an abundant crop of evils which only that unholy wedlock is capable of producing. The authority of the church was guaranteed by the state. In return the church sustained the autocracy of the throne by preaching the divine right of kings, and granted absolution to the king and his debauched courtiers for their crimes and petty sins. Both church and state exploited the people without mercy. Their moral rottenness can scarcely be exaggerated. Religion was an empty formalism, and the church, a mistress of all wickedness.

The two chief leaders in the forefront of the attack upon this degenerate type of Christianity were Boyle and Voltaire. Boyle, who was by no means an avowed infidel, lived in the 17th century, but his sharp criticisms of Christianity formed the basis of most of the atheistic ideas of the 18th century. Voltaire, brilliant, clever, witty, vain, conceited, cynical, became the undisputed leader in the assault upon religion. The one literary genius of the age, he directed his sinuous strength and venomous wit against the Roman Catholic Church, which he invariably termed "the infamous thing." He charged that all prophets and priests are imposters and crooks. The church is the cause of most atrocious tyranny, of most horrible human sacrifices. Voltaire did not absolutely deny the existence of deity, but, like most of the men of his own day, he took refuge in deism. He believed that, after creating the world, God withdrew and has nothing more to do in controlling its operation. Miracles, providence, revelation, the three central beliefs of the Christian faith, he pronounced contrary to reason. However, he did not wish completely to destroy religion, for he considered it a valuable instrument for keeping the masses under control. Thus Voltaire showed a lower ethical sensibility than the very leaders whom he so mercilessly castigated. So deep were the wounds which he inflicted upon Christianity, as he knew it, that his memory has been the object of the most bitter execration on the part of Christians to this day, not alone on the part of Catholics, but also of Protestants, about whose beliefs and practices he knew practically nothing.



VOLTAIRE.

The views of Boyle and Voltaire were widely accepted by the intelligent class throughout Europe and to a lesser extent in America. The entire Christian system was flouted and ridiculed as a base superstition and a palpable fraud. Miracles were held to conflict with the uniformity of natural law; providence, with common sense. The Bible was considered full of errors; it could not have been an inspired work, and was thought to be wholly unworthy of confidence. The only satisfactory religion was held to be that which one derived from nature, and which was in accord with human reason.

What were the effects of these attacks upon religion and the Christian faith? The Jesuits were driven out of every country in Europe but two, and finally the order as a whole was suppressed by Pope Clement XIV, in 1773. This expulsion involved the destruction of their numerous colleges, in which a large portion of the most gifted of the youth of the higher classes were being educated. Whereas many of the thinkers of an earlier time were favorable to deism, there was an increased trend toward out-and-out atheism. In France the leaders thought that religion should be taken out of the hands of the church entirely, and made a civic affair. Many tried to work out a purely naturalistic religion. Another, and perhaps the greatest, result of the criticism of the church was the breaking away from empty formalism and credalism, and the return to a religion of inner light and ethical meaning. The French revolt had its influence in America, where it played a part in that great and significant step, the complete separation of church and state. So far as education is concerned, it was taken out of the hands of the church and became a secular and civic training. This process took time for its realization, but the reasons for it, in large measure, go back to the religious revolt of the 18th century.

Conditions of social life. The standards of living were grossly unequal, and social life was shockingly corrupt. The mass of the people were in rags, and lived more like animals than human beings. For this poor and meager living they toiled to the last ounce of their strength. This was true even of quite young children as well as those who were mature. As for the upper classes, the nobility of church and state and the *bourgeoisie,* conditions were entirely different. They lived in wanton luxury from the toil of those whom they despised.

Never had high society been more brilliant, conversation more sparkling, literature more piquant, nor science more exciting. Manners, language, and taste were refined to the last degree. French training was finished in these respects, but everything was artificial and heartless.

Never, except in the worst days of paganism, was sexual morality at a lower ebb. Fashionable women were devoid of all sense of modesty. Ideal love and conjugal fidelity were considered *passé*. Kings maintained their mistresses openly, and with wanton extravagance. Their example was followed by the nobility of both church and state. As the nobles had no interest in sports or hunting, they occupied their time in illicit love-making. Most deplorable was the fact that nothing better was expected of them. However, their voluptuousness was refined, polished, and calculating. They adorned their vices with wit and elegance. Manners were an art, and took the place of morals. Conditions were the more satanic because of hollow artistry and cynical contempt for all virtue and idealism.

Economic conditions and theories. Economic conditions were bad, so far as the masses were concerned, everywhere throughout Europe. Agriculture was primitive in its methods; and serfdom, actual or virtual, still obtained in most lands. In France the peasants gained a few rights, but their economic condition was desperate. The clergy owned one-fifth of the land; their peasants were the best treated, and their soil was the best cultivated. The nobles, who owned another fifth, treated their tenants with heartless tyranny. One-third of all the lands stood idle every year. The peasants were obliged to pay extremely heavy rentals and local taxes of various kinds. Again, they had to pay a tithe to the church authorities. Over and above all these exactions, the heaviest tax was levied by the king. Only the common people paid taxes to the king; the nobility and clergy were exempt. Dues to the landlord, tithes to the church, taxes to local authorities and to the king amounted to four-fifths of all the produce in favorable years. Stark starvation was the peasant's lot in times of leanness. Thus he bore a staggering and inexorable burden about his neck: [50]

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[50] Hayes, Carlton J. H., *A Political and Social History of Modern Europe*, Vol. I, p. 398. New York, Macmillan 1916.

> We read how starving peasants in France tried to appease their hunger with roots and herbs, and in hard times succumbed by thousands to famine.

Furthermore, it was said: [51]

> Over great tracts of country the poor were reduced to living on grass and water, like the beasts of the field. When the King asked the Bishop of Chartres how his flock fared he was answered that they ate grass like sheep and starved like flies.

In the towns and in Paris the artisans fared somewhat better, because of commerce and manufacturing. A few became rich. But all forms of commercial activity were severely fettered by monopolies, imposts, duties, tariffs, and special taxes.

The political revolt. For several centuries, feudalism in France was slowly evolving into absolutism. By the beginning of the 18th century the process was complete, and the royal will was all-powerful. Every function of the government, legislative, judicial, and administrative, was under the control of the king. Louis XIV of France proudly boasted: "I am the state" (*L'état c'est moi*). His court, which was the most brilliant, aggressive, and licentious in Europe, set the style for all others. Even independent spirits like Frederick the Great imitated it, and the petty princes conducted their affairs according to this model. Bossuet, the most classical orator produced by Jesuit humanistic education, furnished the theory of government on which absolutism was based. He asserted that monarchy under God is the most usual, the most ancient, and the most natural form of government. The king rules by divine right, and he is the embodiment of all the rights and powers of all individuals who are his subjects.

Three classes made up the nation; the king, his court, and the nobility were first; the clergy and the religious orders came next; and below were the common people. The upper class consisted of approximately 150,000 people, or some 30,000 families, who enjoyed hereditary rights but were subservient to the king. The clergy and the religious orders accounted for some 130,000 individuals, who in some respects were subject to the king but in others were independent, and thus formed a state within the state. The population of the common people had grown with great rapidity in recent decades, and now amounted to about 25,000,000 people. Only the nobles had any share in government whatsoever. Having nothing else to do, they imitated the free living of the king and his courtiers. They "devoured" the peasants "like pikes in a pond," for the peasant class was too poor, weak, and afraid to protest.

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[51] Higgs, Henry, *The Physiocrats*, p. 9. London, Macmillan and Company, Ltd., 1897.

Between the peasantry, who occupied the lowest rungs of the social ladder, and the petty nobility, who could not shine at court because of poverty, there was growing up a new class, the *bourgeoisie,* who were to exert the greatest influence upon the course of 18th-century history. This was the class of the newly rich who had gained wealth by commerce and manufacturing, or by graft and monopoly. Trade had vastly increased in France as well as in other lands. These rich commoners lived in the towns and cities, and envied and aped the nobility and fashionable court. They were social climbers and, whenever possible by their cleverness or money, they made their way into the petty nobility or even the court circle. It was from this class that the cry for liberty, equality, and fraternity arose. They were the source of that political discontent which brought about the French Revolution.

In spite of the absolutism of the French monarch, not only was government tyrannical but it was also inefficient. Corruption abounded, the laws were in confusion, and justice was a travesty. The country reeked with venality, greed, jobbery, intrigue, and all the other brood of political evils which go with corrupt agents of a weak but autocratic king under the influence of a crew of licentious courtiers.

The critical revolt against autocratic power and corruption began with Montesquieu, and was advanced by Voltaire, Rousseau, and an increasing number of later writers. In 1748, Montesquieu published *The Spirit of Laws* which for the first time gave the French public an intelligent discussion of theories of government. It acquainted them with the works of Grotius, Hobbes, Pufendorf, and Locke on political organization. More particularly it drew attention to the English system of government, which was the most successful yet devised in harmonizing the power of the monarch and the freedom of the subject.[1] This work of Montesquieu brought about an ever mounting tide of political pamphlets on every conceivable subject connected with the state.

Enlightenment the key to liberty and progress. The leaders of 18th-century thought were conscious that a profound change was taking place in the depth of the human spirit. This change was a new intellectual awakening, comparable only to those momentous spiritual revolutions which history knows as the Renaissance, Scholasticism, and the Age of Pericles. The leaders bombastically called it the "Age of Enlightenment." They felt the thrill of emancipation from a dark and cruel past, dominated by superstition, error, ignorance, and tradition. Man had been duped, misled, and oppressed because he did not know and because he did not think for himself. He had lived a befogged existence. At last, scientific knowledge had put an end to this benighted era, and had brought in Enlightenment and its twin sister Liberty. Scientific knowledge became the popular rage among the intelligentsia. It was a live topic in the fashionable salons. Ladies studied astronomy, mechanics, and anatomy. Knowledge of the operation of natural law had destroyed the mystery of the objective world, and revealed its true character to human intelligence.

The underlying current of 18th-century thought was the idea of progress through the control of natural law. The philosophers conceived nature as a machine governed by immutable laws. To know these laws is to be able to manipulate them for one's own use. The Baconian slogan, *Knowledge is power*, had been abundantly proved by science and invention. What had been done for outer nature, the philosophers felt was equally possible for human nature. Dark and stormy as were their times, yet amid the storms they caught flashes which revealed, as they thought, a wonderful new era.[52]

> It seemed as if the golden age was dawning; the human mind seemed to be awakening from the slumber of centuries to conquer the world, to unravel the mysteries of life, and to discover the secrets of the universe. Confident that only a little thought would be necessary to free the world

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[52] Hayes, Carlton J. H., *op. cit.* Vol. I, p. 418.

> from vice, ignorance, and supersition, thinkers now turned boldly to attack the vexing problems of religion and morality, to criticise state, society, and church, and to point the way to a new and earthly paradise. This tendency—this enthusiasm—has usually been styled "rationalism" because its champions sought to make everything *rational* or reasonable.

Descartes himself had some such dreams. The title he first proposed for his *Discourse on Method* was *The Project of a Universal Science which can elevate our Nature to its highest degree of Perfection.*[53]

The one instrument which could be trusted to lead to the perfection of human nature and happiness was, as these philosophers confidently thought, the spread of knowledge. Intellectual enlightenment, married to self-interest, was the sure instrument of human perfectibility. Civilization is in its infancy and not in its old age, as had been wrongly thought. Paradise is before man, and not in the past. What is the use of the achievements of science and the improvements in the arts, if man himself cannot be improved? Faith in the power of reason and knowledge to bless the lot of man was exalted into a religious fanaticism.

Attitude toward the masses. The same attitude toward the common people is not necessarily shared by all individuals in a group. Altruism, or sympathy for downtrodden humanity, may correlate equally well with many other interests. The upper classes generally despised the lower, and treated them with contempt and cruelty. Many of the nobility looked upon the peasants as a lower order of life. But there were conspicuous exceptions, men and women of high station who had a deep sympathy with the struggling masses. For example, it was this age which produced that peculiar contradiction in terms, the "benevolent despot."

The Rationalists who, by their wits, had raised their own lot, generally came from the common ranks. Rationalism, however, is naturally cold, snobbish, and supercilious—the product of selfish, calculating egotism. The Encyclopedists generally believed the common people incapable of reason, or of enlightenment, and hence in need of control. Voltaire referred to them as *canailles* (dogs), who need a god and a king to keep them in leash. He tersely expressed his attitude in this statement: "The people will always remain stupid and barbaric; they are oxen, that need the yoke, whip and hay." He had no desire whatever to share with them the benefits which arose from the advancement of knowledge, and from man's power over nature. The advantages of enlightenment were for the higher classes of birth and intelligence. He always treated the people with contempt, and the Encyclopedists generally shared his attitude.

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[53] Bury, J. B., *The Idea of Progress*, p. 67. London, Macmillan and Company, Ltd., 1921.

There were, however, some Rationalists who took a different point of view. Furthermore, it was precisely because of the cynical heartlessness of Rationalism that Rousseau turned his back upon it and took up Naturalism. Many of the group of Rationalists drew the logical conclusion of the doctrine, emphasized by Pufendorf and Locke, that all men have equality of rights. The differences in individuals are due wholly to social environment, education, and training. All are equally capable of enlightenment and the development of reasoning ability. Many believed in the perfectibility of human nature. These, however, were probably more influenced by a belief in the potency of enlightened self-interest than in any altruistic leanings.

What was true of these other groups was true of the religious people also. The clergy and priests generally took no special interest in the lot of the people. Yet, it was this very ill-omened era which produced the best fruits from the benevolent ministrations of Francke and the Pietists, in Germany; the S. P. C. K. and the S. P. G., in England and America; Démia, La Salle, and the Brethren of the Common Schools, in France; and, later, Zinzendorf and Oberlin, and the greatest of all the lovers of mankind, Pestalozzi.

3. The Physiocratic Movement

Superficial though it was, the philosophy of the Enlightenment was comprehensive—in fact, more comprehensive than any since the Greek. It was, however, lacking in one point: it provided no theory of economic betterment, and the need of a radical economic reorganization was imperative. This lack of economic doctrine was supplied by another group of men, now generally known as the *Physiocrats,* or *Economistes.* Their activity began just after the middle of the 18th century. The originators of this new theory were François Quesnay, court physician to Louis XV, and Jacques Claude de Gournay. The leading disciples and propagandists of the movement were the elder Mirabeau; Mercier de la Rivière; Turgot, the comptroller-general; and Dupont de Nemours. Dupont was the journalist of the movement.[54] He edited the works of Quesnay and managed the *Journal,* which was the official organ of propaganda. Americans have a special interest in him because of his influence upon American education. In his later days he migrated to this land, and upon the suggestion of Thomas Jefferson wrote *National Education in the United States of America,* one of the first plans for the organization of an educational system in this country.[55]

The term *Physiocracy* literally means the rule, or government, of the physical world or of nature. It has the same significance for economics that *negative education* has in the philosophy of Rousseau, and *natural law,* in the theories of the Encyclopedists. The physiocratic doctrine is merely the application of the principle of natural law in the economic world. The importance of their work lies in the fact that the Physiocrats are the founders of economic science, and that they introduced the doctrine of economic individualism and freedom which has been followed since that time. Their most important doctrines were these:

(1) Agriculture is the one and only source of wealth. It alone yields a real profit; that is, adds an increment to what already exists as wealth. Industry and manufacturing change the character of goods or raw materials, but add no real value. Neither does transportation.

(2) Every individual has a right to labor, and to enjoy the fruits of his labor. This is a natural right, and as such cannot be alienated or surrendered in any way whatsoever, not even by social contract. Even the state must submit to this right. The greatest happiness for man consists in the greatest

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[54] Quesnay's grandson came to America and undertook to establish French culture in the United States. See page 565 of this text.

[55] See also page 565 of this text.

possible abundance of objects suitable to his enjoyment, and in the largest freedom to profit by them.

(3) Production and trade must be absolutely free. Innumerable restrictions, governmental and otherwise, hamper economic life; but, according to the new doctrine, freedom of production and exchange will be practiced, for liberty is essential for production and the enjoyment of production to the greatest extent. This doctrine, called by Gournay *laissez-faire,* has been the chief principle of political economy since his day. This doctrine allows production, commerce, and trade to follow their own inherent laws without any artificial interference from the government.

(4) The sole function of government is to protect life and property, and to administer justice. It is not within the scope of government to restrict or interfere with production and trade.

(5) Individual property and security are the indispensable conditions for the full enjoyment of the products of labor. Property and security are the basis of economic liberty, and economic liberty is the basis of individual happiness.

These doctrines of the Physiocrats exercised a profound influence throughout Europe and America. These men were thoroughly upright, and were inspired by a sincere desire for the good of the people, especially for the material and moral elevation of the working classes. They called attention to the oppression of the peasants, and raised the importance of this class in the eyes of the rulers. They pleaded for the abolition of tolls on transportation and of the restrictions on agriculture and trade. They advocated the repair of roads and canals. They never challenged the principle of despotic government, but contended for a more intelligent and enlightened, and even benevolent conduct of, absolutism. Quesnay expressed this same idea in his advice to the Dauphin: "Do nothing, but let the laws rule."

Due to the work of the Physiocrats, agriculture gained in dignity, and country life was idealized. Societies for the improvement of agriculture were formed, and it was looked upon as a means of social progress. This back-to-the-farm movement was further popularized through the work of Pestalozzi and Fellenberg; by their influence the training for industrial and agricultural life began and was carried to America, where it exercised an important effect on higher education through the founding of land-grant colleges.

The physiocratic movement was taken up by the benevolent, or enlightened, despots. Among these may be listed: Frederick the Great, of Prussia; Maria Theresa and her son Joseph II, of Austria; Catherine the Great, of Russia; Charles III, of Spain; Gustavus III, of Sweden; and Charles Frederick, of Baden. Accepting the ideas of the Physiocrats, they relaxed the oppressive laws against the peasants, freed trade, and sought to educate the people to become productive workers and loyal subjects. In fact, in the hearts of rulers a wave of benevolence took the place once occupied by contempt and scorn for the lower classes. Their educational reforms will receive attention later.

These economic principles were not sound, but they had this value: they led to a more balanced study and presentation of the subject of economic theory and laws, as represented by Adam Smith in his *Wealth of Nations*, published in 1776.

For Further Study

JOHN LOCKE

John Locke's chief writings:

Essay Concerning Human Understanding, 1690.
Essay Concerning Toleration, 1667.
Instructions for the Conduct of a Young Gentleman, 1706.
Letters Concerning Toleration, 1685, 1690, 1692, 1706.
Of Study, *n. d.*
Conduct of the Understanding, published 1706.
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Some Thoughts Concerning Reading and Study for a Gentleman, 1706.
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CHAPTER XIII

ROUSSEAU: THE COPERNICUS OF MODERN CIVILIZATION

It is well-nigh impossible to overemphasize the influence that the writings of Rousseau have had upon the course of modern civilization. Sir Henry Maine has justly stated it:[1]

> We have never seen in our own generation—indeed the world has not seen more than once or twice in all the course of history—a literature which has exercised such prodigious influence over the minds of men, over every cast and shade of intellect, as that which emanated from Rousseau between 1749 and 1762. It was the first attempt to re-erect the edifice of human belief after the purely iconoclastic efforts commenced by Boyle, and in part by Locke, and consummated by Voltaire.

His doctrines revolutionized views of government, religion, and social life; radically changed the prevailing ideas of marriage; introduced a new philosophy and practice of education; and inspired a new literary movement.

1. Rousseau's Life and Character

Parentage and early training. Jean Jacques Rousseau began his tragic career in the city of Geneva in the year of 1712, the offspring of mixed, but highly respectable, parentage. The father traced his ancestry to a bookseller who fled from Paris in the 16th century to escape persecution for his Protestant profession of faith. The mother, beautiful, intelligent, and refined, belonged to high-class Swiss stock. Inheriting a nature at once Parisian and Swiss, and subjected to the rigorous regimentation and ideals of life which ruled the citadel of

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[1] Maine, Henry, *Ancient Law*, p. 84. New York, Henry Holt, 1885.

Calvinism, Rousseau was never able to reach inner and outer harmony. As the climax to his handicaps, his mother died when he was but a week old. With a true sense of grief, he long after bemoaned his loss: "I cost my mother her life, and my birth was the first of my misfortunes."

The father was a reputable watchmaker, fond of reading, but extremely eccentric and sentimental. Too poor to pay for the proper education of his son, he was too busy and injudicious to train the lad himself. When Jean Jacques was six years of age, his father taught him to read, choosing as his texts some old romances which had belonged to the mother. A strange sort of primer indeed! Before Jean Jacques was seven years of age, the two had read aloud, in turn, "whole nights together, and could never stop until we had reached the end of a volume." These sentimental debauches over, more substantial works were avidly devoured, among them Plutarch's *Lives,* and Bossuet's *Discourses on Universal History.* In later years Rousseau drew in glowing colors the picture of these seances with his father: [2]

> I cannot recall to mind, without the sweetest emotions, the memory of that virtuous citizen to whom I owe my being. . . . I see the works of Tacitus, Plutarch, and Grotius, lying before him in the midst of the tools of his trade. At his side stands his dear son, receiving, alas with too little profit, the tender instruction of the best of fathers.

The consequences of such early overstimulation were disastrous. Jean Jacques became passionately fond of reading, and intellectually and emotionally precocious. But he was utterly incapable of acquiring the conventional habits and attitudes of normal life. According to his own *Confessions,* he stole, lied, played dirty tricks; and was a bright, but indolent, irritable, ill-bred, and thoroughly unprincipled boy.

When the lad was ten, his "best of fathers" ran away from Geneva, and Jean Jacques, together with a cousin, was sent to school for a period of several years in the village of Bossey. This constituted the only systematic training he was destined ever to receive. Here for a time he was normally happy, played with zest, learned to garden, and acquired that mystical love of nature which moved him frequently to tears. But even this short period of school life ended in disappointment; and he returned home, along with his cousin, and here shared the private lessons in drawing and coloring, and, during the time of leisure, "they made cages, flutes, kites, drums, houses, pop-guns and cross bows."

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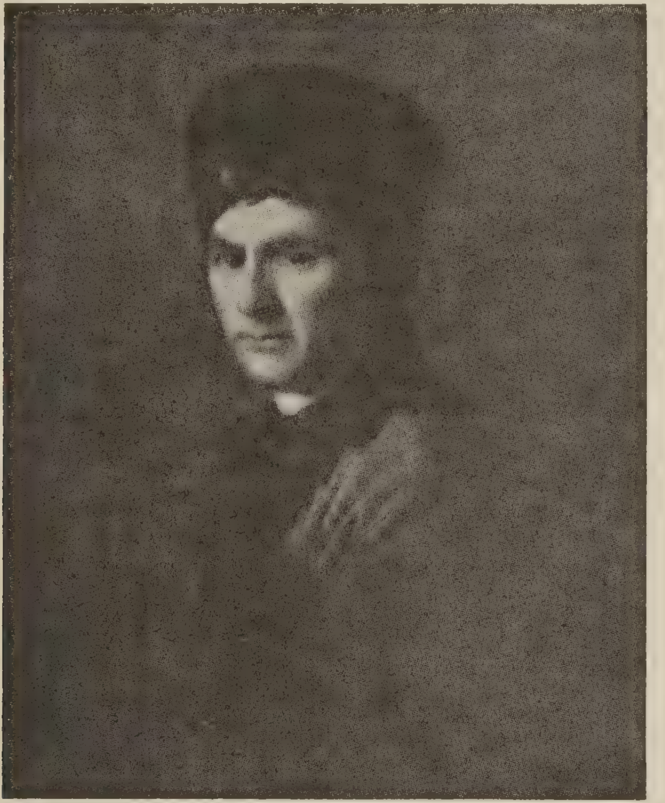
[2] Rousseau, J. J., Preface to *Discourse on the Origin of Inequality.*



Jean Jacques Rousseau.

Youth. In youth, Rousseau was incapable of adjusting himself properly to social and vocational life. Placed in the office of the city registrar to become a clerk, he was quickly discharged because of incompetency. He was altogether too temperamental to acquire a trade or even to practice the ordinary civilities of conventional living. Apprenticed to an engraver, he ran away in his sixteenth year. The occasion was trifling enough; the consequences were momentous. One Sunday evening he wandered, as he frequently did, outside the city with several companions. Returning to find the gates of the city closed, rather than face the scolding of his master, he blithely turned his back upon his home and native city, Geneva, to become a wanderer. If one could have looked into the heart of this carefree young vagabond, he would have noted many admirable traits, but nothing which foreshadowed the future genius who was to affect the course of civilization so profoundly. He was passionately fond of music, had a mystical attachment to nature, a keen sense of justice, some interest in handicrafts, an abnormal sex consciousness, a rather shy and diffident disposition, an unstable temperament, and an unfathomable yearning for personal independence.

Manhood. The next twenty years of his checkered career have more value for the social pathologist than for the student of educational science. They may be passed over with little detail. A priest took pity on him, tired and hungry from his wanderings, fed him, and easily persuaded him to accept the Catholic faith. Placed for his spiritual edification under the guidance of Madame de Warens, a charming woman, who was herself a recent convert to Catholicism, Rousseau made little progress. With her assistance he put forth many efforts to find a congenial vocation. In turn, he served as a lackey, studied for the priesthood, practiced music under a choir master, and became a government clerk, a teacher of music, and a secretary. The reading of Locke's *Some Thoughts Concerning Education* led him to attempt teaching, and he was employed to instruct the two sons of Monsieur de Mabley, an important official of Lyons. Like all his other efforts, this, too, resulted in complete disappointment because of his unfortunate temperament. He again returned to the hospitable roof of Madame de Warens, and in the end became her paid secretary and lover.

Only two features of these years are of special significance: the experiences gathered in his frequent wanderings, and his somewhat desultory studies. His excursions afforded a vivid insight into the revolting miseries of the French peasantry, which were due to the unconscionable political and economic maladministration of that ill-starred era. His studies served to acquaint him with the current social and philosophical problems agitating the minds of learned men. The philosophic writers who made the deepest impression upon him were Montaigne, Leibnitz, Locke, Pope, and Voltaire. His range of reading included, also, scientific investigations from which he acquired some knowledge of the works of Descartes, Pascal, Kepler, and Newton. Government and education, in the large sense of the term, gradually came to form the central themes of all his thinking. This may be traced to his study of Plato's *Republic,* which he later declared "the finest work on education ever written." Among the other books which had a decided influence upon him were: Locke's *Some Thoughts Concerning Education,* Pope's *Essay on Man,* and Defoe's *Robinson Crusoe.* So profoundly was he impressed with the last that he selected it, from all the books ever written, to "constitute the whole library for the youth of Emile."

In 1741, Rousseau in a fit of jealousy broke with his beautiful mistress, and set out for Paris. In spite of his extreme poverty, many eccentricities, and personal awkwardness, he established cordial relations with the leaders of the Enlightenment, Voltaire, Diderot, and others. He thus became associated with the most brilliant literary and philosophical group in France, accepted their views and pessimism, and engaged in their libertarian life. By copying music, he obtained a most meager livelihood. It was, furthermore, at this time that he attached to himself Thérèse Levasseur, a vulgar and very stupid servant who lived as his mistress for twenty-three years before a marriage ceremony was performed. Five children were born to them, and without delay each in turn was sent to the foundling hospital. Nor were any of them ever traced. This was one of the most unaccountable of the many eccentric performances of this most paradoxical of geniuses.

Rousseau's awakening. Rousseau reached the ripe age of thirty-seven without displaying a scintilla of real intellectual ability. His tumultuous emotionality was notorious, but it had only marked him as a man of strange eccentricities. Genius awakened in him with the suddenness of a flash of lightning in the blackness of midnight, as it frequently does in men of passionate nature. So typical of his temperament was this experience that it is worthy of special attention.

One warm afternoon in October 1749, Rousseau was walking slowly along the road from Paris to Vincennes to see Diderot, who was temporarily imprisoned there in the Bastile. As he glanced through the *Mercure de France*, his attention was arrested by the offer of a prize by the scientific academy of Dijon, for an essay on the question: "Has the progress of the Sciences and the Arts tended to the purification or the corruption of morals?" This question struck him like an electric shock, and the experience can be best described in his own terms: [3]

> The moment I read this I saw a new world, and became a new man. If ever anything was like a sudden inspiration it was the emotion within me at this reading. All at once I felt my senses dazzled by a thousand lights. Crowds of vivid ideas were suddenly presented with a force and confusion that threw me into an inexpressible bewilderment. I felt my head seized by dizziness like an intoxication. A violent palpitation oppressed me. Not being able to breathe and to walk at the same time, I dropped beneath one of the trees of the avenue, and there I passed half an hour in such agitation that when I arose the whole front of my coat was wet with my tears, though I was not conscious of shedding them.
>
> Oh, sir, if only I could have written even a fourth-part of what I saw and felt under that tree, with what clearness would I have set forth the contradictions of our social system: with what force would I have exposed the abuses of our institutions: with what simplicity would I have shown that man is naturally good and that it is these institutions alone which make him bad.

As a result of his decision, Rousseau wrote a scathing but illogical attack upon the civilization produced, as he then thought, by the sciences and the arts. The chief marvel was, not that he won the prize, but that the members of the academy voted in favor of his essay; for they had in view something very different from what he offered. In any case, Rousseau sprang into sudden fame, and, what is far more important, he felt himself seized by a holy mission for the reordering of all human civilization.

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[3] In his writings Rousseau referred three times to this experience. See Rousseau, J. J., *Confessions*, Book VIII; also Defour, Théophile, *Correspondance générale de J. J. Rousseau,* Vol. VII, pp. 50–51. Paris, Librairie Armand Colin, 1925.

The next years of his life were given over to writing. In 1755, in response to a second prize offered by the academy, he wrote another essay: *What is the Cause of Inequality among Men?* In 1761, he discussed marriage and family life, in a series of letters constituting a romance called *The New Héloïse.* The next year, there followed the two most important works on which his permanent claim to genius rests: *The Social Contract,* the result of many years of reflection and study of the fundamental principles of government; and the *Emile,* in which he discussed education and religion. It has been said that Rousseau spent the last half of his life writing about the first, for all of his writings are deeply colored by his own experiences. This is particularly true of his last work, the *Confessions,* in which he laid bare his soul as no great man had ever before done. In spite of his unparalleled fame and services to mankind, his last years were no happier than his first. He died in exile, in poverty, and in solitude, in 1778.

Rousseau's paradoxical nature. Of all the greatest figures of human history none presents a stranger and more inexplicable puzzle. Creator of paradoxes, Rousseau's life and character were the supreme paradox. He is a striking example for those psychologists who associate genius with the pathological.

Rousseau was a creature of prodigious emotionality and uncontrollable passions. Periods of exaltation and ecstasy alternated with violent reactions. At times he is known to have suffered spells of the deepest melancholia. His sentimentality reached a high degree of absurdity. Picture him as he wanders days from his route to visit the birthplace of his beautiful benefactress, and as, "melting with tenderness," he "sighs, and weeps like a child in the happiness of melancholy." Then again, at times he became irascible, suspicious, jealous, and quarrelsome. No friendship was lasting, and he was always quick to pick a quarrel with the one who sought to help him. A creature of caprice, he was condemned to suffer the emotional storms and stress of early adolescence throughout all his days. It was not without good reason that he attached to puberty a crucial significance in the unfolding of life, for it was his unfortunate lot to experience the storm and stress of perpetual pubescence.

Being so highly emotional, his behavior and thinking were explosive. He acted upon the spur of the moment, driven by irresistible impulses. Finding the gates of the city closed was ample excuse for turning his back upon his people, his obligation as an apprentice, and his native land. Outbursts of anger often led to the loss of employment. The sudden inspiration which disclosed his genius and set him upon the highway to fame is typical of the creative flashes which emotional genius experiences in every field of creative activity.

The tendency to sudden flashes of inspiration may throw light upon the paradoxical character of his mind. Novel ideas rose to consciousness with startling suddenness and irresistible power. For the time being each new thought completely captured attention to the exclusion of all contradictory or modifying factors. Harboring no rival, the new idea glowed and radiated with illuminating significance and persuasiveness. Here one finds an explanation of his many contradictions, his inveterate tendency to employ paradox, his exploitation of half truths. He endeavored to explain his incapacity to think in wholes: [4]

> Wavering perpetually between my natural sentiments, tending to the general good of mankind, and my reason, confining everything to my own, I should have remained all my life in this continual dilemma, doing evil yet loving good, in constant contradiction with myself, had not new knowledge enlightened my heart; had not the truth, which determined my opinions, directed also my conduct, and rendered me consistent.

Those mental traits may likewise explain his effusive repentances. In the glowing tribute to his native Geneva, he confessed he had "too late grown wise . . . vainly regretting that peaceful repose which I had forfeited in the imprudence of youth." [5] Similarly he suffered the pangs of remorse for his inhuman treatment of his own children: [6]

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[4] Rousseau, J. J., *Profession of Faith of a Savoyard Vicar,* in HARVARD CLASSICS, Vol. 34, p. 284.

[5] Rousseau, J. J., Preface to the *Discourse on the Origin of Inequality.*

[6] Rousseau, J. J., *Confessions,* Book VII. Note also p. 16 of *Emile,* Book I. All quotations from the *Emile,* with the exception of Foxley's on page 474 of this text, are from the translation by William H. Payne.

> The course that I had pursued with respect to my children . . . has not always left my conscience tranquil. . . . I felt that I had neglected duties from which nothing could excuse me. My remorse finally became so keen that it came near forcing me to make a public avowal of my fault.

It was during the writing of the *Emile* that the enormity of his acts seized his conscience, as the following passage indicates: [7]

> He who cannot fulfill the duties of a father has no right to become such. Neither poverty, nor business, nor fear of the world, can excuse him from the duty of supporting and educating his own children. Reader, believe me when I predict that whoever has a heart and neglects such sacred duties will long shed bitter tears over his mistake, and will never find consolation for it.

Alongside his reprobate and perverted nature, especially in his mature years, existed the capacity to feel a thrill for everything that is lofty and ideal, and to express these noble aspirations so appealingly that the world was inspired by his enthusiasm. If there existed no jot nor tittle of information in regard to the life he lived, nor his *Confessions,* from his other writings alone we should be constrained to judge him one of the world's noblest idealists. His firm belief in the original goodness of the human heart, his desire to preserve its innocency at all hazards, his profound sense of justice and genuine sympathy for downtrodden humanity, his interest in the preservation of virtue, his love of liberty, his passion for genuineness, and his bitter hatred of artificiality, conventionality, hyprocisy, and sophistication—all are marks of the idealist. Even his naturalistic doctrines served as an introduction and a means for the realizing of ideal values.

His break with Rationalism was by no means a repudiation of the function of reason in human life. He saw that the faculty of reason as the Encyclopedists conceived it, was narrow, cold, selfish, cynical, and contemptuous of the masses of humanity. "It is vain," he declared, "to attempt the establishment of virtue on the foundation of reason alone." In his philosophy reason is not a primary aspect of the soul, but a secondary or acquired ability, which emerged comparatively late in the process of human development.

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[7] Rousseau, J. J., *Confessions,* Book VII.

2. Rousseau's Political and Social Theories

Revolt against civilization. The actual subject proposed by the Academy of Dijon was: "Has the restoration of the Arts and Sciences had a purifying effect upon Morals?" The academy had in view an examination of the moral effects of the humanistic Renaissance as against the morals of the scholastic era. Rousseau had no quarrel with Humanism, but seized the occasion to generalize the suggestion of degeneration, by asserting that the arts and sciences have at all times and in all lands caused the downfall of virtue. Everywhere mankind became corrupted in civilization "in proportion as the arts and sciences improved. . . . The daily ebb and flow of the tides are not more regularly influenced by the moon than the morals of a people by the progress of the arts and sciences. As their light has risen above our horizon, virtue has taken flight, and the same phenomenon has been constantly observed in all times and places." The arts and sciences make men effeminate and cowardly. In proportion as they enervate the body, they decrease the vigor of mind and corrupt morals. The greatest examples of manly virtues were furnished by the Spartans, the Scythians, and the Romans. The supreme virtues are courage, temperance, simplicity, endurance, brotherhood, and justice.

Rousseau was admirably fitted to lead the growing revolt against the artificiality and degeneracy of civilization in the 18th century. His was a personal grievance that gave him due cause to draw up an indictment against all human institutions. Consider his "terrible destitution" because of his maladjustment in all of the vital human relations. Neither as child or man did he enjoy the moral strength and purposefulness that come from a normal home life. There were many who offered him the support of friendship, but his irascible disposition made it impossible long to profit by their assistance. Over and over he tried to acquire the morale that comes from steady employment, but he invariably failed. He proudly acclaimed his citizenship, but was an exile most of his days. The marriage state that had never been more degraded by corrupt practices and low ideals than at this time scandalized him. Sectarian conflicts and a false Christianity had deprived his sensitive soul of the consolations of religious fellowship. "Surely no one was ever more a solitary in the midst of society than he." Maladjusted on every side, his genius sought consolation and expression in creating pictures of a nobler civilization. "He is, so to speak, the embodied protest of thwarted individuality against a society that has failed to give manhood adequate scope."[8]

Man in the state of nature. By the middle of the 18th century a tremendous change had taken place in regard to man's understanding of the riddle of his own being. There were many reasons for this change. First, in demonstrating that the earth is not the center of the universe, astronomy had destroyed the ancient theory that man is the paragon of creation. He could no longer flatter his egotism that everything was made expressly for his welfare. Then, again, the knowledge of the ancient Greek and Roman civilizations had shown how far man could develop through his own natural capacities. Furthermore the exploration of the New World, particularly the close contact with the American Indians, had brought new knowledge of the character of primitive races.

Out of all these new conceptions emerged an interest in discriminating between what belongs to nature and what to the artificial accretions of civilization. Students of the origin of government traced their principles to an original state of nature, and the fundamentals of law, to inherent natural rights. Philosophy and theology went forth in quest of a new and better basis, and discovered it in the inner nature of man's reason. Out of this effort grew natural religion. With these suggestions before him, Rousseau painted his picture of the original man in the state of nature, and proceeded to show what changes and additions have been acquired by the action of civilization.

The portrait which Rousseau drew of the original man in the state of nature is this:[9]

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[8] Boyd, William, *The Educational Theory of Jean Jacques Rousseau,* p. 93. London, Longmans, Green and Co., 1911.

[9] Rousseau, J. J., *Discourse on the Origin of Inequality,* Part I.

> When I think of this man as he must have been when he came forth from the hands of nature, I see an animal less strong than some of the animals, less agile than others, but, taking him all in all, better organized than any of them. I see him satisfying his hunger under an oak, quenching his thirst at the first stream, and finding his bed under the same tree that furnished his repast and lo all his wants are satisfied.

So far as his mentality is concerned, man is a creature of mere feeling and sensibility, and his desires "do not go beyond his physical wants." He has no relations with his fellows, speaks no language, and is devoid of all reasoning and imagination. "The only good things that he knows in the universe are his food, his mate, and his rest. The only evils he fears are pain and hunger." Like the animals he is dull and stupid, but good and happy. Rousseau agreed with the English poet Pope:[10]

> The state of nature was the reign of God:
> Self-love and social at her birth,
>
> . . . .
>
> Pride then was not; nor arts, that pride to aid;
> Man walked with beast, joint tenant of the shade;
> The same his table, and the same his bed.

In the state of nature man lived quite unconscious of self. His needs were few and simple, and his strength amply sufficient for satisfying all his cravings. The sole end of his behavior was to preserve himself from pain and death, and to secure the satisfaction of his animal nature. The mainspring of his conduct Rousseau termed *self-love* (*amour-de-soi*)—that is, the impulse for self-preservation. In this animal state all individuals are free and equal; they are in no wise dependent upon one another.

The state of savagery. Reason lifted man above the purely animal state. Speech, family life, and the simple arts were produced. But man was still independent; his wants were few, his strength was more than necessary, and his virtues far exceeded his vices. Thus, as Rousseau imagined, the savage lived in a condition of placid stupidity, but serene and happy.

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[10] Pope, Alexander, *Essay on Man.*

The evolution of civilization. However, man did not remain in the state of isolation. His imagination awakened new and limitless desires, and led him to create civilization with its artificial needs. Self-assertion, self-aggrandizement, and emulation now arose in the hearts of men. Primitive self-love, which was neither good nor bad, was superseded by *amour-propre,* a calculating and ambitious love of self.

This new development is the fecund mother of all the degenerating and corrupting passions and manners of man. Social distinctions of superiority and inferiority result, and bring in their train the horrible brood of man's inhumanities to man. In his boundless ambition, everyone would subordinate all others and everything to himself. Man's understanding, with the aid of a volatile imagination, expands his desires and creates new wants, limitless in extent, which he is quite incapable of satisfying by means of his own power and resources. Other individuals must be used as tools in order to satisfy these wants. Individuals come to be ranked according to a social scale, and their original equality wholly disappears.

This tendency leads to the organization of social, political, and industrial life in the higher and the lower classes, and thus to slavery. Social life comes to be governed by conventionality, artificiality, and snobbishness. Religion degenerates into formalism and hypocrisy. Government ends in despotism and tyranny. Prejudices and conventions press upon man on every side and he loses entirely the power of acting on his own initiative. "He must do as others do, and as others want him to do." Under these circumstances, independence is lost and individuality destroyed; man sinks into a condition of servility to his fellows and to social institutions and customs. He discriminates himself sharply from others, and his possessions, from those of others. He becomes acutely conscious of self, of his position in relation to others, of his power over others, and of their power over him.

Reason, the cause of man's ruin. Animals are machines run by a set of fixed instincts. These instincts act in accord with the uniform laws of nature. Such was the conclusion of contemporary French philosophy. La Mettrie, a French physician, and many others, accepted the logical conclusion that man, too, is just such a machine.[11] But, according to Rousseau, the animal man in his original state was no mechanical robot. He did not have a complete set of instincts capable of determining all his actions automatically. Nature acts in the animals, but man is a free agent. In this respect, man is less perfect than other creatures, but his weakness is compensated for by a primitive ability to understand and reason. In the state of nature, his understanding was the instrument of his few and simple wants.

But a great and tragic change took place in man's primitive condition. Out of his rudimentary intelligence, curiosity and the ability to discriminate emerged. In the beginning, one tree was as good as another, one mate as attractive, and there was no choice as to his food; for "all fed on the same food-stuffs, lived in the same way, and did exactly the same things." All men were on an equality. This simplicity and uniformity of behavior were in accord with the laws of nature.

With the new power of discrimination, choice entered and put an end to uniformity and simple equality. Preference as to his abode, his mate, and his food produced greater complexity of conduct. Family life evolved, language became common, and these led to the forming of human society. To these developments were then added the beginning of private property, which brought into action one of the most subtle and powerful passions of the human soul.

Accordingly, man's original state of innocence and happiness was destroyed by his intelligence. The true cause of his downfall lay in the development of rationality. It was at once the cause of his moral delinquency and of all his misfortunes. This was the first sin, which drove man from his garden of happiness and placed him under a curse.

The real trouble was that man substituted cleverness for virtue, and preferred self-aggrandizement to equality. In the climax of his *Discourse on Arts and Sciences,* Rousseau utters this strange prayer:

> Almighty God! Thou who holdest in Thy hand the minds of men, deliver us from the fatal arts and sciences of our forefathers; give us back ignorance, innocence, and poverty,

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[11] La Mettrie, J. O. de, *Man a Machine.* Translated by Gertrude Carman Bussey. Chicago, Open Court Publishing Company, 1912.

> which alone can make us happy and are precious in Thy sight.

Origin of the arts and sciences. The reason the arts and sciences corrupt man and degenerate his virtues lies in the fact that they themselves are of evil origin. They arose from man's curiosity and his efforts to enhance his lot.[12]

> Astronomy was born of superstition; eloquence of ambition, hatred, falsehood and flattery; geometry of avarice; physics of an idle curiosity; and even moral philosophy of human pride. Thus the arts and sciences owe their birth to our vices; we should be less doubtful of their advantages, if they sprang from our virtues.
>
> Thus it is that luxury, profligacy and slavery have been, in all ages, the scourge of the efforts of our pride to emerge from that happy state of ignorance, in which the wisdom of providence has placed us . . . Let men learn for once that nature would have preserved them from science, as a mother snatches a dangerous weapon from the hands of her child. Let them know that all the secrets she hides are so many evils from which she protects them, and that the very difficulty they find in acquiring knowledge is not the least of her bounty toward them.

Institutional reforms. Rousseau declared civilization a grand mistake, and society, the source of all evil; but, strange to say, in the end he did not demand their abolition. Though always more or less under the influence of this pessimistic view, he placed his hopes in the possibility of realizing sweeping reforms, and in so inoculating the child that he would be able to withstand the poison of social contacts. He pointed out the changes he thought necessary in the state, church, marriage, family life, and school, in order to bring them all back to the fundamental principles of nature.

The Social Contract opens with the declaration: "Man is born free, and everywhere he is in chains." This paradoxical condition is due to an irreconcilable antagonism between the state of nature and society. In the state of nature all were free and equal, and no one exercised any control over another. To preserve this condition is the fundamental need of civil organization.[13]

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[12] Rousseau, J. J., *Discourse on the Arts and Sciences*, pp. 139–140. Pages refer to EVERYMAN'S LIBRARY, volume entitled *The Social Contract and Discourses*. All references to *The Social Contract* are likewise to this edition.

> If we ask precisely wherein consists the greatest good of all, which ought to be the aim of every system of legislation, we shall find that it is summed up in two principal objects, liberty and equality.

Personal liberty belongs to man by natural right, is forever inalienable—that is to say, it can never justly be lost, sold, or otherwise dispensed with. For this reason, when man entered into the civil state, he did so by a mutual, or social, contract. In thus forming the state, two ends were sought: first, common defense; and second, the preservation of man's original freedom. The "problem" of government is: [14]

> . . . to find a form of association which will defend and protect with the whole common force the person and goods of every associate, and in which, each while uniting himself with all, may still obey only himself, and remain as free as before.

Rousseau evidently conceived it possible for a society to exist in which protection would be furnished by mass coöperation but in which there would be no diminishing of individual liberty. He had in view the noble savage, not as the savage was in reality in various parts of the earth, but as he was romantically visualized and idealized by 18th-century writers. This figure, as created by the imagination, "is not attached to any place, has no prescribed task, obeys no one, has no law but his own will, and is compelled to reason about every action of his life." [15]

The state exists by virtue of "the general will," which is the universal good. Laws are but an expression of this common interest and ought to be enacted only with the consent of the people. Rousseau's ideal state is small, like Sparta or Geneva. He opposed the principle of representation in government, for every individual must assist in making the laws.

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[13] Rousseau, J. J., *The Social Contract*, p. 45.

[14] *Ibid.*

[15] Boyd, William, *op. cit.*, p. 93.

As he conceived democracy, "the people, being subjected to the laws, should be the author of them."[16]

He also wrote:[17]

> I should have sought a country in which the right of legislation was vested in all the citizens; for who can judge better than they of the conditions under which they had best dwell together in the same society.

Representative government is wrong in principle, for "the moment a people allows itself to be represented, it is no longer free." Moreover, he added:[18]

> It is doubtful whether, from the very beginning of the world, human wisdom has made ten men capable of governing their peers.

These views were highly revolutionary in the middle of the 18th century and they were a dagger thrust at the heart of autocratic government. Rousseau was the prophet of democracy, though paradoxically enough he was himself no true democrat.

Man in the civil state. Rousseau's views underwent considerable change between the time he wrote his first essays and the writing of *The Social Contract*. He no longer idealized the primitive man but set up the civil state along democratic lines.

When the civil state emerged out of primitive barbarism, it produced many changes in the nature of man. There were some disadvantages, but these were compensated for by a preponderance of benefits. The chief cause of this evolutionary change was the rise of reason; by virtue of the change, mankind entered into moral life.[19]

> The passage from the state of nature to the civil state produces a very remarkable change in man, by substituting in his conduct justice for instinct, and giving his

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[16] Rousseau, J. J., *The Social Contract,* p. 34.

[17] Rousseau, J. J., Preface to the *Discourse on the Origin of Inequality.*

[18] Rousseau, J. J., *Discourse on Political Economy,* p. 252. Page refers to EVERYMAN'S LIBRARY, volume entitled *The Social Contract and Discourses.* All references are to this edition.

[19] Rousseau, J. J., *The Social Contract,* Book I, Chap. VIII.

> actions the moral quality they previously lacked. It is only when the voice of duty takes the place of physical impulse, and law succeeds appetite, that man, who till then had regarded only himself, sees that he is obliged to act on other principles, and to consult his reason before listening to his inclinations. Although, in this state, he is deprived of many advantages that he derives from nature, he acquires equally great ones in return; his faculties are stimulated and developed; his ideas are expanded, his feelings are ennobled; his whole soul is exalted to such a degree that, if the abuses of this new condition did not often degrade him below that from which he had emerged, he ought to bless without ceasing the happy moment that released him from it forever and transformed him from a stupid and ignorant animal into an intelligent being and a man.

One sees by this new view that Rousseau was now fully aware of the one-sidedness of his earlier principles, but his mind was never wholly able to transcend the old antagonism of nature and society. In the end he sought to do so by the theory of successive stages in the development of individual life. At one stage, the emphasis was placed upon the development of the savage and the individual; at another, upon the development of reason and duty; and at still another, upon the social man.

Religion and the church. In the *Profession of Faith of a Savoyard Vicar*, Rousseau castigated the evils of the church, and set forth a doctrine of religion based only on nature and human reason. He denied miracles, revelation, dogmas, and creeds. Like his contemporaries, he was a deist, but his deism was religious and emotional. He combined a discrete agnosticism regarding the possibility of revelation with a spirit of reverence for Christianity. Religion, however, he believed to be a concern of the individual and neither an institutional regimentation nor an external ritual.

Marriage and the family. These institutions also came within the scope of Rousseau's scourging criticism. The common custom, especially in France, was that the father arranged the marriage of his children without regard for their natural feelings and sentiments. How absurd the situation frequently became we have already seen.[20] In *The New*

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[20] See page 432 of this text.

Héloïse, Rousseau pictures the revulsion of the heroine when about to be given in marriage, and shows what this practice leads to so far as marital relations are concerned: [21]

> Has my father then sold me? Yes, he has considered his daughter as mere property, and has consigned her with as little remorse as a trader would a bale of goods. He purchases his own ease and quiet at the price of all my future comfort; nay, of my life itself.

The results of this method of arranging mating were to be seen in the lack of conjugal fidelity.[22]

> In Paris marriage is a different institution from what it is in other parts of the world: they call it a sacrament, and yet it has not half the power of a common contract. It appears to be nothing more than a private agreement between two persons to live together, to bear the same name, and acknowledge the same children; but who in other respects, have no authority one over the other. If at Paris a man should pretend to be offended with the ill conduct of his wife, he would be as generally despised, as if, in our country, he was to take no notice of her scandalous behavior. Nor are the ladies on their parts less indulgent to their husbands. . . . In short, what other effect can be expected from an union in which their hearts were never consulted: those who marry for fortune or title seem to be under no personal obligation.

Human nature is good. The prevailing theology of Rousseau's day held that man is born in sin, and as a result of the sin of his parents. He is totally depraved, for sin is hereditary in all parts of his nature, his emotions, will, and reason. This doctrine of human depravity is very ancient. It formed one of the central teachings of Christian theology as expounded by Saint Augustine and his followers; especially of the celebrated church reformer John Calvin; and of the Port Royalists. It is of curious interest that Rousseau, who vehemently combatted this ancient theological tenet, was born and raised in Geneva, the city of Calvinism. He was never weary of proclaiming his opposition to the view held by the reformer.

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[21] Rousseau, J. J., *The New Héloïse*, Letter XXVII.

[22] *Ibid.*, Letter LXXXVI.

"Everything," he declared, "is good as it comes from the hands of the author of nature." Again, "Oh! let us not spoil the man of nature, and he will always be virtuous without constraint, and happy without remorse." Or, "There is not a scoundrel living whose natural propensities would not have produced great virtues if they had been better directed." Goodness is thus the original condition, evil is the acquired. If wickedness were natural, man would have to become unnatural in order to become good. The author of the laws of nature would no more create man evil than he would make the law of gravitation imperfect. The virtues, conscience, a sense of right and wrong, a sense of justice, reverence, and pity are innate in the soul. The great problem is, not to implant virtues, but to preserve the soul from the vices which society puts into it.

Origin of vices and evil in the race. How vices arise can readily be seen, according to Rousseau: [23]

> Let us lay it down as an incontestable principle that the first movements of nature are always right. There is no original perversity in the human heart. There is not a single vice in it of which we cannot say how it entered and whence it came. No one ever does evil as evil!

All vices began when man entered into human relations. The original man lived an isolated existence. He was animated by the will-to-live (*amour-de-soi*)—that is to say, by that love of self which issues only in self-preservation. His needs were few and simple. His individual strength and skill were ample to satisfy every need completely. Life was dull and stupid, but it was simple, happy, and unaffected.

As already indicated this condition, unfortunately, underwent a radical change. A vain curiosity led man to look about him. His imagination compared himself with others, and encouraged him to conceive new wants. These desires could not be satisfied by his own unaided power and skill. Only as other individuals assisted his efforts could he secure all the desires of his heart. He became more and more dependent on others, and society thus became increasingly more complex. The original condition of equality of men was destroyed; in its stead there arose social classes with divisions of rank and social distinctions—a few who command, and the many who obey.

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[23] Boyd, William, *op. cit.*, p. 315.

Social rank produces a new and acute sense of selfhood. The individual compares himself with others, and self-love (*amour-propre*) is born. It expresses its character in self-assertion or self-aggrandizement.[24]

> But self-love (*amour-propre*) is never satisfied, and could not be, because this feeling, by preferring ourselves to others, also requires that others prefer ourselves to them—a thing which is impossible.

Human society, therefore, was founded upon the conflict that results from the self-centered interests of individuals. This is precisely the war of all against all that the Englishman Thomas Hobbes had explained as the original condition of society. But, according to Rousseau, this condition is not the original state of man; rather, it is an outgrowth of the degeneration due to social rivalry.[25]

> That which makes man essentially good is to have few needs and to compare himself but little with others; while that which makes him essentially bad is to have many needs and to pay great deference to opinion.

Herein is the source of all the vices of human existence. Emulation produces jealousy, pride, vanity, envy, and all other human weaknesses.

The natural history of human viciousness is thus laid bare. Man's intellectual powers led him to conceive a host of imaginary wants that his strength and skill could not satisfy by his individual efforts. Division of labor ensued; and this brought with it social distinctions and classes, the multiplication of new arts, and the increased dependence of the individual upon others, with consequent loss of personal freedom.

Perpetuation of evil in the individual. Thus far we have been considering the origin of evil in the race. How it is transmitted from the older to the new generation is also readily seen. The home, the school, and social environment put into the hearts of children artificial desires and ambitions that they do not have the power to satisfy. "We should distrust the desires which they themselves have not the power to satisfy, we must then be careful to distinguish the true or natural need from the fancied need." Rousseau tells how the home instils these false desires, and leads the child to domineer over others: [26]

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[24] Rousseau, J. J., *Emile,* p. 195.

[25] *Ibid.*, p. 195.

> A child cries as soon as born, and his first years are spent in tears. At one time we trot and caress him to pacify him, and at another we threaten and beat him to keep him quiet. We either do what pleases him, or we exact of him what pleases us; we either subject ourselves to his whims, or subject him to ours. There is no middle ground; he must either give orders or receive them. And so his first ideas are those of domination and servitude. Before knowing how to speak, he commands; and before knowing how to act, he obeys; and sometimes he is punished before he is able to know his faults, or rather, to commit any. It is thus that, at an early hour, we pour into his young heart the passions that we straightway impute to nature; and that, after having taken the trouble to make him bad, we complain of finding him such.

The desires and the powers of an individual ought to be commensurate one to the other. If his powers are greater than his desires, he lacks a spur to realize himself; if his desires exceed his powers, a sense of frustration and unhappiness results. In the case of the young child, it is easy to stimulate desires out of all proportion to his power and ability to realize them. The child then seeks, by commanding others, to obtain his ends; he regards others as mere tools and not as ends in themselves. He becomes spoiled, domineering, and filled with all the vices of selfishness.[27]

> As soon as they come to consider the people who surround them as instruments which they can employ, they make use of them to follow their inclinations, and to supplement their own feebleness. This is how they become troublesome, tyrannical, imperious, depraved, unconquerable; a progress which does not come from a natural spirit of domination,

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[26] *Ibid.*, pp. 14–15.
[27] *Ibid.*, pp. 32–33.

> but which gives them this spirit; for it does not require a long experience to feel how agreeable it is to act through the hands of others, and to need only set the tongue a-going in order to set the universe in motion.

Again, Rousseau admonished against this danger: [28]

> It is important to accustom him at an early period neither to command men, for he is not their master, nor things, for they do not hear him.

Thus, it is society that early implants in the hearts of young children desires which they should not have and for the satisfaction of which the child must use other persons as mere tools. It is this inculcation of the feeling of superiority and inferiority which has cursed mankind. To prevent this degenerating process in the individual is the supreme task of education.

3. Rousseau Formulates the Principles of the New Education

I. The New Point of View

Through all the centuries down to this time, the theory and practice of education had been determined and organized from the standpoint of adult interests and adult social life. Scarcely anyone had dreamed there could be any other point of view from which to approach the training of the young. Rousseau boldly assailed this basic assumption as not only utterly false but absolutely harmful. In place of the ideas and views of the adult, he substituted the spontaneous interests and activities of the child and its natural course of development. No change of attitude could have been more striking and revolutionary. The analogy with the Copernican revolution in astronomy is more than a mere rhetorical figure. Just as Copernicus destroyed medieval cosmology and replaced it by a physical universe which obeys natural laws in all its movements, so Rousseau put an end to the traditional theological conceptions of the child, by showing that he is a true creature of nature and that he acts and grows in harmony with the laws of nature. With passionate ardor, so characteristic of all he did, he pleaded for a complete reversal of the old views of child nature.

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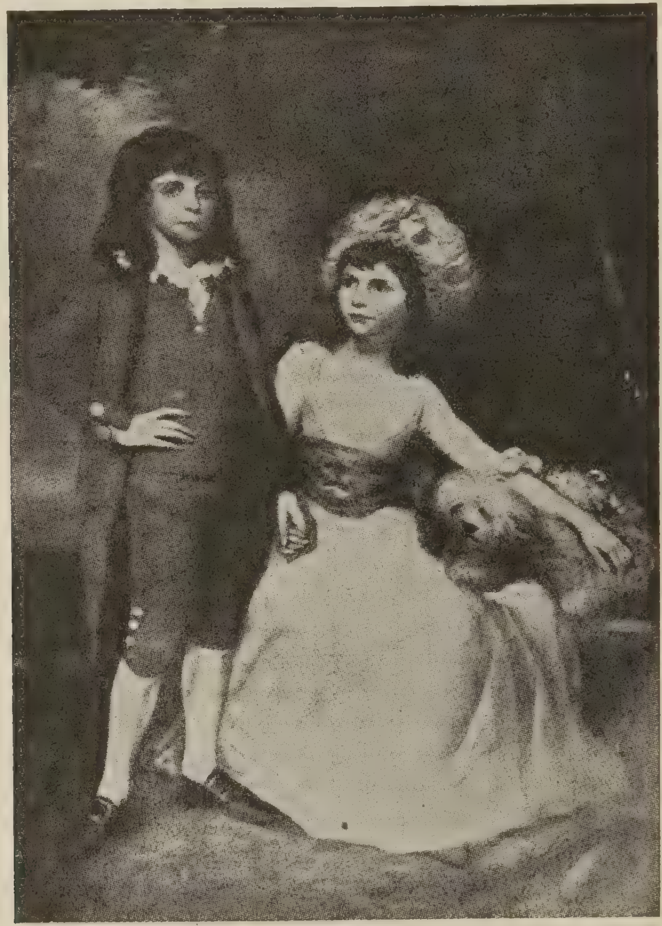
[28] *Ibid.*, p. 30.



Children's Dress in the Eighteenth Century.

False assumptions of the adult point of view. The adult and social point of view carried numerous erroneous and misleading assumptions that were now seen to be quite absurd. Much of the treatment of children, as well as most of the methods of instruction based upon these wrong assumptions, had to undergo radical revision.

(1) *The child is not a miniature adult.* The foremost of these misconceptions was that the child is a miniature adult, and that enlargement in size and increase in knowledge are the chief processes essential to development. As a consequence of this idea, boys and girls were treated as little men and little women. They were dressed in the absurd and injurious fashions of their parents.[29]

> The godless age of Louis XIV also inflicted upon the poor children of the higher ranks hair frizzled with powder and smeared with pomade, embroidered coats, knee-breeches, silk stockings, a sword at their sides; all of which was the severest torture for young and active children.

Little girls wore long dresses and corsets, as did the women. As people treated children's bodies, so they treated their minds. They were expected to understand the same subjects and to be interested in the same ideas in which adults were. They were obliged to practice the same conventionalities of polite life and, as a matter of fact, to observe a far more rigorous standard of ethical behavior.

Departure from the adult type was regarded as an abnormality and was treated with harsh measures. Among many peoples, infants had their heads bound to force a shapely form. Conduct was governed by innumerable rules; misconduct was ascribed to the innate perversity of the human heart. From all such artificiality of dress and treatment of conduct, Rousseau liberated childhood at one bold stroke. He dared to deny the settled belief of the ages that children are naturally depraved; to assert that they are inherently good; and to insist that it is human institutions and misguided methods of education which corrupt them.

Education had been conceived as a process by which the child acquires certain habits, skills, attitudes, and a body of knowledge which civilization had handed down. Great value was attached to these products of the race, and they were regarded as the fundamental and essential possessions of civilization. It was the task of the school to pass them over unchanged to each new generation. On the one hand, the stability of society depended on the success of the transfer. On the other, the success of the individual depended upon

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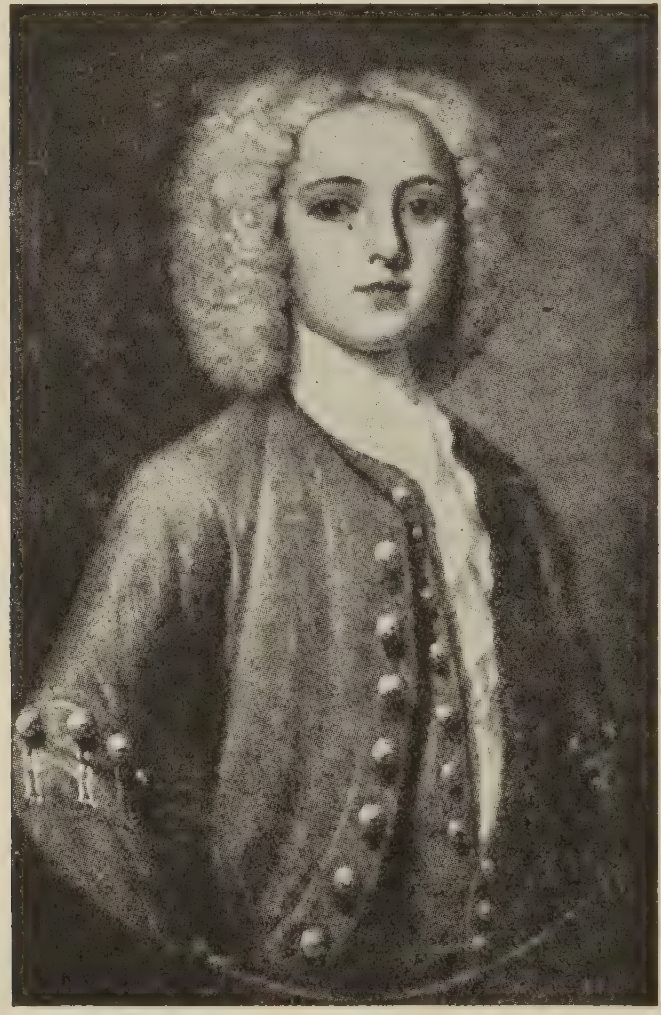
[29] Barnard, Henry, *German Teachers and Educators*, pp. 479–480. Hartford, Brown & Gross, 1878.



Twelve-Year-Old Boy, 1736, showing Apparel and Hairdress.

acquiring them. It appeared that nature lent her kindly help to the child in his effort to learn what society had agreed was important. The fact that children are imitative, that the retentive power of memory is strongest in childhood, that they have an extraordinary ability to acquire language apart from the ideas symbolized—all these have conspired to mislead pedagogy.

It was the great service of Rousseau to demolish this false system of education. His supreme contribution to mankind lies in making the child the new center from which education must be viewed. He tells us that "we never know how to put ourselves in the place of children; we do not enter into their ideas, but we ascribe to them our own." The metamorphoses of human life—infancy, childhood, youth, and maturity—are the basis of the new pedagogy. Teaching and training consist, not in inculcating ideas and habits, but in furnishing the child with opportunities for the functioning of his body and mind that is natural for each stage. The experience gathered from these activities brings about the growth of his powers and furnishes the information necessary for further activity.

(2) *Individuality versus social needs.* Another far-reaching assumption of the day placed the interests of society above those of the individual. "Like a saddle horse, man must be trained for man's service." The individual was sacrificed for the mass: [30]

> All our wisdom consists in servile prejudices, all our customs are but servitude, worry and constraint. Civilized man is born, lives and dies in a state of slavery. At his birth he is stitched in swaddling-clothes; at his death he is nailed in his coffin; and as long as he preserves the human form he is fettered by our institutions.

The child was trained to conform to the existing society. The ruthless crushing of individuality aroused the most implacable and bitter hatred in Rousseau's heart. The individual is an entity in himself, infinitely precious, and should never be sacrificed to fit the needs of society.[31]

> Man is too noble a being to be obliged to serve as a mere instrument for others, and should not be employed at what he is fit for without also taking into account what is fit for him; for men are not made for their stations, but their stations for men. In the right distribution of things, therefore,

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[30] Rousseau, J. J., *Emile*, p. 10.

[31] Boyd, William, *op. cit.*, p. 140. Quoted from *The New Héloïse*, Vol. 2.

> we should not seek the employment for which each man is best suited so much as the employment most suited for making each man as good and happy as possible.

The goodness and happiness of the individual are more essential than the development of his talent for social service. In setting the needs and interests of the individual above those of organized society, Rousseau reversed the universal order of mankind. But it must be remembered that in this instance Rousseau had in view the evil society of his day. In the ideal and natural society, where human nature retains its original simplicity and innocence, all individuals will be brought up together and will share the common interest.

(3) *The study of child nature.* Rousseau's new point of view began with his theory of the evolution of social organization, but was confirmed by a growing knowledge and insight into the nature of children. In contrast to the cold-blooded indifference with which he disposed of his own offspring, he may be seen a pathetic figure furtively watching the children of others, as he spied upon their artless play. He was indeed peculiarly well-fitted to enter into and understand child life by virtue of a most acute memory of the feelings and interests of his own childhood. But it would be quite wrong to infer that he reached his ideas of child nature entirely independently. The treatment of children, their education, and their development were frequently the subject of prolonged discussion in the social circles in which he moved. One will miss the supreme motive of his educational theory if one fails to see that the heart of the whole matter is the study of child nature. Rousseau pointed this out in no uncertain terms: [32]

> We do not know childhood. Acting on the false ideas we have of it, the farther we go the farther we wander from the right path. Those who are wisest are attached to what is important for men to know, without considering what children are able to apprehend. They are always looking for the man in the child, without thinking of what he was before he became a man. This is the study upon which I am most intent, to the end that, though my method may be chimerical and false, profit may always be derived from my observations. I may have a very poor conception of

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[32] Rousseau, J. J., Preface to *Emile.*

> what ought to be done, but I think I have a correct view of the subject on which we are to operate. Begin then, by studying your pupils more thoroughly, for it is very certain that you do not know them. Now, if you read this book of mine with this purpose in view, I do not believe that it will be without profit to you.

This deep interest in child nature he insisted upon at every stage of education. It is ignorance of the changes in development which makes old methods so faulty. Not knowing the feelings, thoughts, and interests of children, adults ignorantly force their own upon them. The principle of the new method is to understand what nature itself is developing in the child.[33]

> The child ought to be wholly absorbed in the thing he is doing; but you ought to be wholly absorbed in the child—observing him, watching him without respite, and without seeming to do so, having a presentiment of his feelings in advance.

Rousseau discovers the recapitulation theory. The idea of human progress which animated some of the great minds of the 17th century was opposed by others who asserted that the race was degenerating. But they all agreed that the great epochs of history should properly be conceived as analogous to the periods in the life of a single individual. The race, as the pessimists believed, had traversed the successive stages of infancy, childhood, youth, and maturity, and was then at the period of degenerate old age. Rousseau was certainly influenced by this view. As already indicated, he began his literary career with most vivid ideas of the sharp contrast of the happy state of the original man as compared with the degraded condition of human existence under civilization. But, in place of repeating the simple analogy that the race in its history had had its periods comparable to the life of an individual, he undertook to reverse the procedure.

Instead of using the epochs of individual development to throw light upon the development of the race, he turned the situation completely about and employed the history of the race to illuminate the development of the individual. In his progress from birth to maturity, the child lives over again the epochs through which the race passed in its movement to civilization. He begins as an animal; then becomes a savage, a solitaire or Robinson Crusoe; then attains rationality; and finally emerges as a social being. If we would understand childhood, we must begin by stripping off all the artificialities that man has acquired through centuries of social accretion, and look at life with the simple and direct vision of the original man. What was a mere literary analogy, Rousseau made the instrument of new insight into human existence. Though he was unaware of the fact, he had introduced the recapitulation theory, which was to receive renewed interest when support came to it from the biological science of the 19th century.

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[33] Rousseau, J. J., *Emile,* p. 169.

Stages of development. The recognition of stages, or periods, in the development of individual life was not new. It had come down from Aristotle and had been reëmphasized by Comenius. But it was Rousseau who first made it a vital principle for education, by showing its deeper significance for human development.

According to his point of view, the various stages are sharply marked off, one from another, by special characteristics or functions. Rousseau was, in fact, the first to introduce this saltatory theory of development. The emergence of some new factor into experience suddenly—by a leap, so to speak—was in harmony with his own emotional temperament. The first stage, from birth to five years of age, is an animal stage. At this point there emerges the dawn of self-consciousness, the earliest sense of self. "Memory diffuses the feeling of identity over all the moments of his existence. He becomes truly one." With the beginning of connected memories of self, "the life of the individual properly begins." At twelve, he suddenly becomes conscious of self in a deeper way; the rational faculty awakens, and with it emerge the higher sentiments. But the child is still an isolated being, without true moral life. The next stage is reached at puberty, with the emergence of sex, which is the most important element in the entire life of the individual.[34]

> We have two births, so to speak—one for existing and the other for living; one for the species and the other for the

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[34] *Ibid.*, pp. 192–193.

> sex. It is here that man really begins to live, and nothing human is foreign to him.

The crucial importance of sex in the theory of Rousseau is the key to his whole philosophy of individual development.[35]

> Recognizing, as no one had done adequately before, the supreme importance of the beginnings of sex-activity at puberty for the spiritual life of man, he divided the life of the immature human being into two great periods, according to the absence or the presence of sex-life. . . . The fact is that his whole account of education turns on his conception of the effects of the sex-functions on body and soul. The child, on his view, is a mere neuter, not merely in the matter of sex, but of everything truly human, and lacks passion, reason, conscience, and every other adult faculty. The real beginnings of life (and of education) await the first activities of the sex functions. When sex awakens there is an almost catastrophic irruption of the passions into the sphere of conduct, and a period of emotional stress and strain, lasting over many years, is ushered in. Not less momentous are the indirect results; the nascence of imagination, the first relating activities of intellect, the quickening of conscience, the new birth of the soul, the change of a solitary into a social being to whom nothing human is alien.

With the emergence of sex the social relations of the individual properly begin. Nature herself superimposes a spirit of altruism upon isolated individualism. The moral life and the highest sentiments of the soul begin to blossom, and lead to the natural evolution of religious life.

Stages independent, not preparatory for future. As the periods are sharply marked in their rise, so they are independent of each other in their development.[36]

> Each age, each period of life has its proper perfection, a sort of maturity which is all its own. We have often heard mention made of a grown man; but let us now consider a grown child. This spectacle will be something newer for us, and perhaps not less agreeable.

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[35] Boyd, William, *op. cit.*, pp. 321–322.

[36] Rousseau, J. J., *Emile,* p. 121. Cf. also pp. 46 and 122–123.

Each period, or stage, of development has its own peculiar completeness. No period should be made merely a means of getting to the next. Each is an end in itself, an independent whole, and not merely a transition to a higher period. Each stage has its own special needs and desires, and forms only the habits which are best for the perfect realization of life at that stage.[37]

> The infant is an animal: treat him as an animal. The ten-year-old boy is a savage: expect no more from him than from a savage. Even from twelve to fifteen, be satisfied to see the boy play the game of Crusoe, since in social outlook he is still a solitary.

This being the case, Rousseau is vehemently opposed to that old idea which looked upon education as a preparation for adult life.[38]

> What must we think, then, of that barbarous education which sacrifices the present to an uncertain future, which loads a child with chains of every sort, and begins by making him miserable in order to prepare for him, long in advance, some pretended happiness which it is probable he will never enjoy? Were I even to assume that education to be reasonable in its object, how could we witness, without indignation, these poor unfortunates subject to an insupportable yoke, and condemned, like galley-slaves, to never-ending toil, without any assurance that such sacrifices will ever be useful to them? The age of mirth is passed in the midst of tears, chastisements, threats, and slavery. The victim is tormented for his good.

Strange to say, even in the nascent years from twelve to fifteen the same principle obtains. The child is to be taught what is useful to him at the time, but not what adults imagine he will need to know when he becomes a man.[39]

> Try to teach the child what is of use to a child and you will find that it takes all his time. Why urge him to the studies of an age he may never reach, to the neglect of

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[37] Boyd, William, *op. cit.*, p. 153.

[38] Rousseau, J. J., *Emile*, pp. 44–45.

[39] Rousseau, J. J., *Emile; or, Education*, p. 141, in EVERYMAN'S LIBRARY edition. Translated by Barbara Foxley.

> those studies which meet his present needs? "But," you ask, "will it not be too late to learn what he ought to know when the time comes to use it?" I cannot tell; but this I do know, it is impossible to teach it sooner, for our real teachers are experience and emotion, and man will never learn what befits a man except under its own conditions. A child knows he must become a man; all the ideas he may have as to man's estate are so many opportunities for his instruction, but he should remain in complete ignorance of those ideas which are beyond his grasp. My whole book is one continued argument in support of this fundamental principle of education.

Rousseau's conception of the stages in human development can be more readily understood from the chart on page 476.

Any novice can find fault with Rousseau's theory of stages. Its value lies, not in its finality as a science of development, but in the fact that he laid the foundation for the genetic interpretation of education in such a compelling form that it must forever be followed by scientific educators. On this principle all progress in the last two centuries has been made; it has illuminated every great educator who has made a lasting contribution to the theory and practice of education.

II. Rousseau's Educational Aims

It cannot be too much emphasized that Rousseau's most fundamental aim is the preservation of the natural goodness and virtues of the human heart, and of the form of society which is in harmony with them. In the external, physical world he observed order, harmony, and entrancing beauty; in the world of man, infinite conflict, ugliness, selfishness, and, as a consequence, incalculable misery. The sharpness of this contrast between the world of nature and that of man is due to the evils of society, and the kind of education given the young. The supreme end to be attained is a society in which the noble, primitive virtues—courage, endurance, temperance, equality, fraternity, simplicity, and liberty—are realized by all citizens.

Individuality the problem of Rousseau's education. The recognition and liberation of the individual in the modern world came slowly and irregularly. The first significant ex-

STAGES OF HUMAN DEVELOPMENT

Period	*Physical Development*	*Mental Development*	*Social Development*
Infancy: Birth to 5 years	An animal with few needs. Powers too weak to satisfy his own needs. Action mechanical.	Senses passive, feelings simple but dominant. No power to reason.	State of nature. No sense of social relation, wholly self-centered, no moral ideas. Obeys only things.
Childhood: 5 to 12 years	An animal with needs still few. Powers still too weak to satisfy his own needs. Action spontaneous.	Feelings dominant. Senses active, and reaching maximum vigor. Connected memory basis of sense of selfhood. Reason still slumbering.	Stage of savagery. Soul good but not virtuous. Child non-moral because he is non-social. Obeys only things.
Youth: 12 to 15 years	Needs still few and simple. Powers far in excess of requirements to satisfy needs.	Feelings less dominant. Reason and judgment emerge. Curiosity makes him acquainted with nature of things. Sensations become ideas. Sees relationship of things. Learns to know things because of his activities. Future is conceived but only as ideal. Child becomes fully self-conscious.	Robinson Crusoe stage. Youth is individualistic, solitary. Still non-moral and non-social.
Maturity: 15 to 20 years	Sex life emerges. Wants become numerous, many are imaginary. Unable to satisfy his desires by his own unaided powers.	Mind rises to a consciousness of the unity of all things. Abstract ideas arise; imagination and reason uppermost. Idealization leads to a sense of the spiritual, religion, morals, art, music, beauty of nature.	Social life begins. Should be introduced through industrial relations, exchange of goods. Results in marriage.

pression appeared at the time of the Renaissance. It was confined to the gifted and aristocratic classes, and, even then, only the artistic and personal aspects of human life were involved. This remarkable display of individual expression in art, scholarship, and literature quickly gave place to an imitative formalism; its threatened spread to other fields of human interest was ruthlessly quashed by the Inquisition. The Protestant Reformation carried the spirit of revolt and individualistic expression over to the religious side of life. At first, Luther, in his doctrine of the rights of the individual conscience, gave promise of full religious liberty for the individual. But when he saw others act upon the ultimate logic of his new principle, he drew back and took refuge in a compromise: outer conformity to the religion of the state, inner freedom to worship God as one chooses. Both Lutheran and Calvinistic Protestantism set up a new authoritarianism, which for the time being suppressed religious individualism. Only small groups like the Moravians, Anabaptists, and Mennonites continued in the face of persecution to uphold the freedom and responsibility of the individual to interpret the Scriptures for himself and to worship God according to the dictates of his own conscience.

Meantime the recognition of the importance of the individual was making rapid progress in the study of law and civil government. Hobbes, Grotius, Pufendorf, and Locke set forth the naturalistic basis of the personal and civil rights of the individual man. But it still remained for someone to set forth the rights of individuality in the social and philosophic spheres and to correlate them with the civil and religious. Such was the profound service performed by Rousseau. By inner and outer experience he was peculiarly fitted, as was no other man, to explain and defend the significance of individuality.

Rousseau is not really opposed to social life, as many believe. On the contrary, he aimed to enable the individual to enter whole-heartedly into all the basal relationships of humanity. But man was to enter a society which was adjusted to his natural virtues and capacities, and not one in which he would be but a packhorse to serve others.[40]

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[40] Rousseau, J. J., *Emile,* p. 187. Translated by William H. Payne.

> There is a wide difference between natural man living in a state of nature and natural man living in a state of society. Emile is not a savage to be banished to a desert, but a savage made to live in cities.

Rousseau found it necessary to construct two systems of education for radically different social conditions. In the one case, he conceived a form of education for a state and society which are organized according to man's natural being. Such a state is small and compact, like Sparta and Geneva. In this state, education is a public function and extends to every child. Its purpose is to foster the natural, simple virtues, and the sense of solidarity (*esprit de corps*). Plato had this form of education in mind in his *Republic*. Rousseau sets forth this plan in his *Discourse on Political Economy,* in *The Social Contract,* and finally in *Considerations on the Government of Poland*. He declared that "education is the most important business of the state"; and, again, that "national education is the privilege of free men." All children, "since by the constitution of the state they are equal, . . . should be educated together and in the same way." By means of common play, songs, and patriotic training the state builds a sense of social solidarity.

The second form of education is for civilization as it was at Rousseau's time. This is the problem of the *Emile*. Long before he enters social life, the individuality of the child—his sense of independence, inner goodness, judgment, and resistance—must be built up to withstand the debilitating and degrading influences of life. He will live in society as a savage, in order that he may keep unscathed the primitive virtues which most nobly distinguish man's estate.

Like many of his predecessors who wrote on education, Rousseau had in mind in the *Emile* the education of the higher classes. The lower classes, he stated, do not need an education. The circumstances of life produce in them the sense of equality, simplicity, spontaneity, and all the other virtues of which they stand in need. But it is the children of the rich and high-born, who are brought up in luxury and artificiality, who stand most in need of the natural plan of education.

Hitherto, education had aimed to produce the citizen and the worker. This object involved the specialization of the powers of the individual and his subjection to others. Rousseau saw in this a direct threat against the fundamental integrity of man. In making a citizen or a worker, education made him less a man. It was a choice between the naturalness of the individual and the distortion of his original nature. In all this opposition to the aims of education of the past, Rousseau was pleading for a generous, liberal cultivation of the natural endowments of the child. He is to be developed as a whole, before the cramping molds of specialization have an opportunity to distort his being.[41]

> In the natural order of things, all men being equal, their common vocation is manhood, and whoever is well-trained for that cannot fulfill badly any vocation connected with it. Whether my pupil be destined for the army, the church, or the bar, concerns me but little. Regardless of the vocation of his parents, nature summons him to the duties of human life. To live is the trade I wish to teach him. On leaving my hands, he will not, I grant, be a magistrate, a soldier, or a priest. First of all he will be a man.

Education is to fit man for a changing fortune and a changing environment. First, the individual child is not to be trained for a definite vocation and a definite social position or class. The variation of individuals in wealth and station makes such training for a single position extremely hazardous. Moreover, the idea that the son must follow the vocation of the father is foolish, for frequently he is not adapted to this calling. Finally, Rousseau drew attention to the fact that society itself is always changing and that man is not a creature fixed and unalterable, because human nature is still in process of development.[42]

> Considering the mutability of human affairs, and the restless, revolutionary spirit of this century, which overthrows the whole existing order of things once in each generation, can we conceive a more senseless method than that of edu-

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[41] *Ibid.,* p. 8.

[42] *Ibid.,* p. 9.

> cating a child as though he were never to leave his chamber, and were always to be surrounded by his attendants?

Not only do we proceed as if the environment were fixed, but we think only of protecting the child. What should be done is rather to develop his powers so that he will be able to protect himself.

As we do not know what society or the future environment will be, nor yet what the fate of the individual will be, we cannot intelligently educate for the future. Moreover, as already indicated, each stage of life has a perfection all its own, and no stage is to be treated entirely as a means or a stepping stone for reaching the next stage. It follows from this reasoning that the child is to be educated, not for some "uncertain future," but only to act in the present. No one has ever in the entire history of education rejected so utterly and boldly the appeal to the child's future good. Rousseau's reason is that the child is wholly incapable of visualizing such future good. Moreover, in being trained to use his powers in the changing conditions of life, he is thus being prepared to meet any situation when it shall arise.

III. The Educational Institution

What is to be the institution that shall train the child? Is education to be a public or a family function? Rousseau felt no sense of contradiction in advocating each, according to the needs involved. There is a form of public education that is good for the attainment of the end he held in view, and there is a form which is distinctly bad. There is one form of family training and education that is bad, and another form that is good. The system of public instruction in the colleges of his day Rousseau dismissed with the curt and stinging comment that it is a "ridiculous establishment." In the *Discourse on Political Economy,* he wrote of public education as follows: [43]

> If there are laws for the age of maturity there ought to be laws for infancy, teaching obedience to others; and as the reason of each man is not left to be the sole arbiter of his duties, government ought the less indiscriminately to

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[43] Rousseau, J. J., *Discourse on Political Economy,* pp. 268–270.

> abandon to the intelligence and prejudices of fathers the education of their children, as that education is of still greater importance to the state than to the fathers; for, according to the course of nature, the death of the father often deprives him of the final fruits of education; but his country sooner or later perceives its effects. Families dissolve, but the state remains. . . . Public education, therefore, under regulations prescribed by the government and under magistrates established by the Sovereign, is one of the fundamental rules of popular or legitimate government. If children are brought up in common in the bosom of equality; if they are imbued with the laws of the state and the precepts of the general will; if they are taught to respect these above all things; if they are surrounded by examples and objects which constantly remind them of the tender mother who nourishes them . . . we cannot doubt that they will learn to cherish one another, as brothers. . . .
>
> I shall say nothing of the magistrates destined to preside over such an education, which is certainly the most important business of the state. . . . Wherever the lesson is not supported by authority, and the precept by example, all instruction is fruitless. . . .
>
> I know of but three peoples which once practiced public education, the Cretans, the Lacedemonians, and the ancient Persians; among all these it was attended with the greatest success, and indeed it did wonders among the two last.

There are still other evidences that Rousseau approved public education. Some ten years after the publication of the *Emile*, he was given the opportunity to plan a system of education for Poland. The system he formulated was national in scope, and aimed to mold every child according to a national stamp, by means of play and the common emotions which result from communal activities. The important thing is to get them accustomed from an early age to discipline, to equality and fraternity, to living "under the eyes of their fellow citizens and seeking public approbation." In his section on "Education," Rousseau wrote: [44]

> That is the all-important article. It is education that must give the souls of the people a national form, and so

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[44] Boyd, William, *The Minor Educational Writings of Jean Jacques Rousseau,* pp. 141–146. London, Blackie & Son, Ltd., 1910.

> shape their opinions and their tastes that they become patriots as much by inclination and passion as by necessity. . . . Every true patriot sucks in the love of country with his mother's milk. This love is his whole existence. He thinks of nothing but his country. He lives only for his country. . . .
>
> National education is the privilege of free men. . . . At twenty years of age, a Pole ought to be a Pole and nothing but a Pole. When he is learning to read, I want him to read about his own country. At ten, he should be acquainted with all its provinces, highways, and towns. At fifteen, he should know all its history; at sixteen, all its laws. There should not have been a fine action or an illustrious man in all Poland, whose fame does not fill heart and memory so that he can give instant account of them. . . . Above all things, do not allow teaching to be made a profession.
>
> I do not like the distinction between colleges and academies, that leads to the rich nobles and the poor nobles being educated separately and on different lines. Since by the constitution of the state they are equal, they should be educated together, and in the same way; and even if it is impossible to establish a completely gratuitous system of public education, the fees in any case should be made so low that the poorest can pay them. . . . [The children] should not be allowed to play separately at their own fancy, but made to play all together and in public, so that there may always be a common end to which they aspire, and by which they are moved to rivalry and emulation. . . . It is not simply a question of keeping the children busy, or of giving them a sturdy constitution and making them alert and graceful, but of accustoming them from an early age to discipline, to equality, to fraternity, to rivalry, to living under the eyes of their fellow citizens and seeking public approbation.

It does not appear that Rousseau was aware how sharply this program seemingly contradicted his views of education as presented in the *Emile*. As a matter of fact, Rousseau would not have admitted any contradiction. Both of his systems were designed to preserve those fundamental virtues which, after all, are the supreme end of life and the chief good of the state.

Family education. In the *Emile,* the father and mother are declared the natural teachers: the one, of boys; the other, of girls. Speaking of Emile, Rousseau said: [45]

> He will be better educated by a judicious though ignorant father than by the most skillful teacher in the world; for zeal will much better supply the place of talent than talent, the place of zeal.

In lauding the virtues of domestic education, Rousseau did not have in view the exclusiveness of the aristocratic home of the English, but rather the home of Calvinistic Geneva. From the time of Calvin, home instruction, especially in religion, had been a distinctive factor in the theocratic state of Geneva. Such instruction, given in the home, was under the supervision of the church elders.[46] Writing of this Genevan home, Rousseau declared: [47]

> It is there the children ought to be educated, the girls by the mother, the boys by the father. This is exactly the education suited for us, midway between the public education of the Greek republics and the domestic education of monarchies in which all the people have to remain in isolation with nothing in common save obedience.

The apparent conflict between his plans of public and of domestic education can be readily explained. They are cooperating factors in a small compact state, and through them the common life, habits, and sentiments are communicated to the young. Both institutions unite in reaching a common end by developing equality, fraternity, simplicity, liberty, and all the other virtues which follow in their wake. Education in an ideal state will necessarily begin in the family, under close supervision, and will then be taken over by the public authorities.

The *Emile* and isolation. The problem which Rousseau presented in the *Emile* is quite different from that which he had in view in domestic and public education in his other writings. It is not the problem of the training of all children, rich and poor, high-born and low, for a common lot. It is not the communication of the habits, customs, ideals, and sentiments of national life. It is not a preparation for citizenship in a small compact commonwealth where all are already on a level. Emile is a scion of wealth and aristocracy, and is not intended for any other fortune. The education he is to receive is not needed by the children of the poor. He is to be educated as a savage to enter society as it is and not as it ought to be. The chief problem is to inoculate him so that he can successfully resist all the contagious evils which he must inevitably encounter in adult life. To this end he must be trained for the exercise of independence of judgment and of will power. In this situation individuality is more necessary than sharing the communal sentiments. Emile is an orphan, isolated from family relationship and from other children. He is to live in the country where life is simplest. Social relations are reduced to the lowest degree, with the tutor as his only companion.

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[45] Rousseau, J. J., *Emile,* p. 15.

[46] Eby, Frederick, *Early Protestant Educators,* pp. 250–252. New York, McGraw-Hill, 1931.

[47] Quoted by Boyd, William, *The Educational Theory of Jean Jacques Rousseau,* pp. 25–26.

One can now see the full significance of Rousseau's conception. Emile represents, at once, the race in its upward evolution and the individual in his need of freedom in passing through the earlier stages of development. The hypothesis of the *Emile* is that the boy stands on the moral and intellectual plane of the primitive man. He is not as yet either moral or rational. He must be left free to follow his own bent and to develop according to nature. He should be dependent on things only, and not rendered artificial or precocious by premature training and instruction. His education, like that of the savage, depends upon his physical environment and inner nature, and not upon social conditions.

IV. EDUCATION AND THE PERIODS OF DEVELOPMENT

The education of children is determined by the various periods of development. Each stage has its own dominant faculty, which emerges and becomes the mainspring in organizing the life. The principles to be followed in one period may not hold for another, for the task of education is to foster the budding activities and interests of the child's nature—not to give him the conventional habits and ideas of society.

(1) *Infancy*

The method of nature in the training of infants. Education begins at birth or before, and the first period extends to the age of five years. This period of infancy is concerned primarily with the growth of the body, the earliest motor activities, and the beginning of sense perception and feeling. The method of nature must be followed in everything. With impassionate pleading, Rousseau recalled mothers to their natural duties, and even made it fashionable for them to nurse their offspring.

The individuality of each child should be respected. It is wrong to attempt to model different minds after one common standard. One's concern should not be to change the individual bent and alter the natural disposition of the mind, but to prevent degeneration. This doctrine of individual differences is fundamental to Rousseau. For example, he wrote: [48]

> One nature needs wings, another shackles: one has to be flattered, another to be intimidated. One man is made to carry human knowledge to the farthest point; another may find the ability to read a dangerous power.

Rousseau condemned the prevailing styles in dressing infants in swaddling clothes, which hindered the free movement of body and limbs. On the one hand, he liberated helpless babies from the bondage of the senseless conventionalities of dress; on the other hand, he accepted the view of Locke and advocated the hardening process for the body. Nature does not spare the child from the pains and bruises that attend life and activity, for "suffering is the lot of man at every period of life." The object in view is to make the body strong and vigorous, a ready instrument of the soul, which later emerges into being. Even in infancy, the meeting of hardships is nature's own method: [49]

> Observe Nature and follow the route which she traces for you. She is ever exciting children to activity; she hardens the constitution by trials of every sort; she teaches them

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[48] *Ibid.,* quoted by Boyd, William, p. 254. Cf. also Boyd, William, *The Minor Educational Writings of Jean Jacques Rousseau,* pp. 62–66.

[49] Rousseau, J. J., *Emile,* p. 13.

> at an early hour what suffering and pain are. . . . Then school them to the hardships which they will one day have to endure. Harden their bodies to the changes of seasons, climates, and elements, as well as to hunger, thirst, and fatigue.

To suffer is the first thing the child ought to learn. For "the weaker the body, the more it commands; the stronger it is, the better it obeys."

Nothing must be done for the child that he can do for himself. Such is the one general principle which should be the guide in the treatment of infancy. Life is a struggle for existence; this is the most fundamental law of human existence—a law to which the child must early learn to conform. Skill in walking, in talking, and in self-help is to be developed in direct relation to his needs, and with as little assistance as possible. Rousseau frowned upon medicine, and considered hygiene less a science than a virtue or habit of right living.

So far as moral and social life are concerned, these are absolutely foreign to the understanding of the infant. But, for this very reason, "the most dangerous period in human life is the interval between birth and the age of twelve. It is the time when errors and vices germinate." All human vices are acquired by wrong training, for none of them are innate. They are easily implanted at this time by unwise coddling or pampering of the infant. By permitting the young to domineer, one germinates in their little hearts the spirit of caprice and an insatiable appetite for self-aggrandizement.

Nature of the educational process at this stage. Just what sort of process is education? When we put this question to Rousseau, we are not left in doubt as to his views. Education does not consist in the accumulation of sensations, though direct experience of things is important. Far less is education the acquiring of knowledge from others. Most of the ideas which others treasure as knowledge, Rousseau held in contempt as sheer falsehood and error. Again, education is not a form of training in the habitual responses and skills of civilized mankind. These are but the chains of slavery. The truth of the matter is that education does not arise from without; it springs from within. "It is the internal development of our faculties and organs" that constitutes the true "education of nature." The first education is the free and unhampered expression of the natural activities of the child in relation to his physical environment.

The driving powers within the human soul are the needs of life, and the faculties of man are developed when they function normally in supplying these needs. Rousseau recognized the economic drive as the real source of human development. No other force is necessary to bring about activity, and out of activity comes all the knowledge of which man stands in need. Instruction is only a guide to conduct—never an impelling force. The order of nature is: need, activity, experience, knowledge. The process of education follows the prompting and leading of nature. The important thing is that the child be allowed to obey the inner impulse to action and that he experience directly the results of his conduct.

(2) *Education from Five to Twelve*

Current methods of teaching and learning. Rousseau was a severe critic of the methods then in fashion in the schools. For most children, childhood was a sorrowful period; instruction was unnatural and heartlessly severe. Grammar was beaten into the memory. Teachers had not as yet imagined that children could find any pleasure in learning, or that they should have eyes for anything but reading, writing, and memorizing. The only form of learning that teachers knew was learning by rote. Rousseau saw in this a fearful error; for the child, as he thought, has no real memory, and purely verbal lessons mean nothing to him.

The ruling philosophy of education was that of formal discipline. This was very clearly stated by one of Rousseau's contemporary critics:[50]

> Education is the same thing for man and for beast. It can be reduced to two principles, to learn to put up with injustice, to learn to endure *ennui*. What does one do when one breaks in a horse? Left to himself, the horse ambles, trots, gallops, walks, but he does it when he wishes, as he pleases. We teach him to move thus or thus, contrary to

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[50] Abbé Galiani, letter to Madame d'Epinay, in 1770. Quoted by Boyd, William, *The Educational Theory of Jean Jacques Rousseau,* p. 306.

> his own desires, against his own instinct—there is the injustice: we make him keep on at it for a couple of hours—there is the *ennui.* It is just the same thing when we make a child learn Latin or Greek or French. The intrinsic utility of it is not the main point. The aim is that he should habituate himself to obey another person's will [and so bore himself]: that he should be beaten by a creature born his equal [and so learn endurance]. When he has learned all that, he can stand on his own feet, he can go into society. . . . All pleasant methods of teaching children necessary knowledge are false and ridiculous. It is not a question of learning geography or geometry: it is a question of learning to work, of learning the weariness of concentrating one's attention on the matter in hand. . . . Develop these ideas and then you will have a book the precise opposite of the *Emile* and worth very much more.

Rousseau saw in such a method of education only a means of enslaving mankind. This was the education which depended on books and upon the authority of others, and against all of these Rousseau's nature revolted.

Rousseau's opposition to books. Rousseau had a deep-seated distrust of books. Of his bitter aversion he wrote most eloquently: [51]

> I hate books; they merely teach us to talk of what we do not know. . . . Since we must necessarily have books, there exists one which, to my way of thinking, furnishes the happiest treatise on natural education. This book shall be the first which my Emile will read; for a long time it will of itself constitute his whole library. . . . What, then, is this wonderful book? Is it Aristotle? Is it Pliny? No; it is *Robinson Crusoe.*

This hatred of books as the means of education is not confined to any one stage of child life, but is extended to all. He felt that the book comes between the child and the things of nature. Moreover, the knowledge that the child learns from books takes the place of the exercise and formation of his own judgment and character. *Robinson Crusoe* alone is valued because it pictures the natural unfolding of the child's life at this stage.

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[51] Rousseau, J. J., *Emile,* pp. 161–163.

Negative education. To do nothing and allow nothing to be done, or, to take the very reverse of the course usually pursued is the new method proposed by Rousseau for education at this stage. It is not that Emile is to learn nothing. Rousseau's emphatic prohibition is directed only against the traditional procedure.[52]

> Do not give your pupil any sort of verbal lesson, for he is to be taught only by experience. . . .
>
> The first education, then, ought to be purely negative. It consists not at all in teaching virtue or truth, but in shielding the heart from vice, and the mind from error. If you could do nothing and allow nothing to be done; if you could bring your pupil sound and robust to the age of twelve years without his being able to distinguish his right hand from his left, from your very first lessons the eyes of his understanding would be open to reason.

"Negative education," Rousseau called this method, and he defined it in this manner: [53]

> Negative, I call that education which strives to make perfect the organs of our understanding before it conveys us true understanding, and which prepares for reason by exercising the senses. Negative education does not mean idleness—on the contrary, it does not inculcate virtue but it prevents vice; it does not teach truth but it preserves from going astray. It makes the child fit for everything that can lead it to the truth when it becomes able to understand the truth, and to the good when it becomes able to love the good.

The negative method was adopted by Rousseau for several reasons. First, it followed logically from the principle that human nature is good and that it unfolds by virtue of inner compulsion. Rousseau felt that any interference with this natural unfolding would be corrupting. In truth the evils of man are directly due to the bad education which he has received. Accordingly he demanded: "Do the very opposite of what is usually done." In endeavoring to understand this strange view, it is necessary to keep in mind that Rousseau was always thinking of education as a process of moral inculcation. Above all else, he was incensed at the debauching means of motivation and discipline employed in his day. He disapproved sharply of rebukes, corrections, threats, and punishments. Even stronger was his anger at the rewards, promises, and prizes that were dangled before the eyes of children to induce them to do or to learn something that was remote from their active interests. Similarly, the use of rivalry, the trump card of the Jesuit pedagogy, Rousseau regarded as the basis of all that social system which formed mankind into competing groups or classes, and filled the human heart with distrust, suspicion, and illwill.

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[52] *Ibid.*, pp. 57 and 59.

[53] Quoted by Höffding, Harold, *Jean Jacques Rousseau and his Philosophy*, pp. 141–142. London, H. Milford, Oxford University Press, 1930.

Nor, on the other hand, did he accept Locke's counsel to reason with children. Before the age of twelve the child cannot reason. He has no moral sentiments, and, consequently, all argument and appeal to judgment and to moral incentives are premature and wrong. Moreover, the whole system of instruction is likewise to be abandoned, for it is founded upon a false psychology. Emile is not to be taught the curricula of the schools; nor, indeed, is he to be taught anything. Experience alone will form his course of study. He learns what he likes, when he likes, and how he likes. He is not even conscious that he is learning, for he is absorbed only in his activities. He must be doing something, and, as he acts, he learns.

Naturalism is not soft pedagogy. One is liable to conclude that, in reacting so contrary to the practices of his day —especially in adopting a system of doing nothing and allowing nothing to be done—Rousseau became the advocate of a soft and easy-going pedagogy. Some of his statements would seem to favor this interpretation. Emile is not subjected to any regimen whatever, and no commands are given him. He follows his own inclinations and learns only from experience. However, Rousseau had in view something quite different from the ordinary conception of the easy-going life. He aimed to avoid not only the rigorous rule of the pedagogical martinet, on the one hand, but likewise a *laissez-faire* policy, on the other. He relieved his fictitious pupil of the harsh yoke of the conventional system of education. But in its place he put the severe yoke of necessity. Just what Rousseau meant by subjecting the child to things and necessity he does not fully reveal.

Roughing it. Rousseau makes it clear that he would have children suffer the pains and bruises which are incident to their activities.[54]

> Far from being careful to prevent Emile from harming himself, I should be very sorry never to have him hurt, and to have him grow up without knowing what pain is. To suffer is the first thing he ought to learn, and that which he will have the greatest need to know.

Again, he would make children sensible of their physical necessities. He wrote in *The New Héloïse*: [55]

> I have thought that the most essential part in the education of children, and which is seldom regarded in the best families, is to make them sensible of their inability, weakness, and dependence, and, assume the heavy yoke of that necessity which nature has imposed on our species.

Whether at this stage he would require Emile to labor to secure the necessities of life is not definitely stated. But at any rate he demanded a life of strenuous activity, without ease, indulgence, or effeminacy.

Criticisms of the elementary curriculum. Rousseau's criticisms of the curriculum of elementary education were as caustic as his criticisms of the methods of instruction and moral discipline. He was not eager to have Emile, before the age of twelve, learn anything of a conventional character, not even reading. He did, however, expect a live boy, such as Emile, to pick up reading incidentally, but not as a formal study. He opposed fairy tales and fancy for the pre-school age, because they were not real; and he objected to fables for the age of boyhood. Aesop's fables, chosen particularly for their moral value, had for many centuries formed the first reading text. But it was precisely because of their supposed moral significance that Rousseau cast them aside. The boy is not a moral being as yet, and, in any case, the fables are misleading.

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[54] Rousseau, J. J., *Emile,* pp. 42–43.

[55] Letter CXXXIX.

Again, the reaction to the study of languages, which had been growing for over a century, reached its climax in Rousseau. He did not believe the boy could learn more than one language, and that must be his mother tongue.

History is another study to which objection was raised for this stage, and on several grounds. Children do not have true memory; they are, therefore, unable to form correct ideas of human conduct, and to judge rightly concerning historic situations. Furthermore, history is confined too much to wars, kings, dates, and political facts of secondary importance; it does not treat of the more significant events of real human value. Again, history deals with society, and, in this period of boyhood, the child is incapable of understanding social phenomena without suffering the corruption of his own heart. History must, therefore, be excluded from this stage of development.

Also, geography is too advanced for children. Thus Rousseau rules out, not only the older subjects which had formed the curriculum for centuries, but also the new materials of the realistic era.

Natural activities form the curriculum. The activities which spring naturally from the needs of life form the curriculum at each stage. The needs of boyhood are simple, having to do merely with the preservation of his existence. First come play and sports, which improve the body, bringing health, growth, and strength. Then, too, the child engages in the primary tasks that produce a livelihood.[56]

> Agriculture is the first employment of man; it is the most honorable, the most useful, and consequently the most noble that he can practice. I do not tell Emile to learn agriculture, for he knows it. All the rustic employments are familiar to him; it is with them that he began, and to them he will ever be returning.

The child learns how to handle the spade and the hoe, the lathe, hammer, plane and file—in fact, the tools of all the trades. These activities lead him to measure, count, weigh, and compare the objects with which he deals. He judges distances, learns to observe accurately and to draw the things he observes. Speech, singing, arithmetic, and geometry, are learned not as formal schoolroom subjects but as experienced activities.

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[56] Rousseau, J. J., *Emile,* p. 178.

Before twelve years of age, the child cannot reason, and he has no sense of social relations. His needs are still simple and few, and easily satisfied. His power to secure satisfaction is not yet commensurate with even these simple needs, and accordingly a feeling of weakness and dependence is experienced. He is still at a pre-social, pre-moral stage of being, and is capable only of responding to things and to necessity. The general policy for his education is: [57]

> Exercise his body, his organs, his senses, and his powers, but keep his soul lying fallow as long as you possibly can. Be on your guard against all feelings which precede the judgment that can estimate their value!

At this stage the child acts only on the impulse of self-preservation. As yet he does not know the will of another, and should not be subjected to either commands or punishments. His activities are caused by necessity, and he can have no sense of responsibility or of duty.

Objective of boyhood education. As Rousseau recognized clear-cut periods of development, so he had definite conceptions of what kind of product should be turned out. His educational aim was not so much a general and remote aim as it was a definite objective for each stage of culture. His ideal for Emile at the close of boyhood is this: [58]

> His form, his bearing, and his countenance bespeak self-assurance and contentment. A glow of health is on his face; his firm step gives him an air of vigor; his complexion, still delicate without being insipid, has no trace of effeminate softness—the air and the sun have already placed on it the honorable imprint of his sex; his features, still rounded, begin to exhibit some marks of developing character of their own. . . . In his prompt but sure movements you may see the vivacity of his age, the firmness of independence, and the experience coming from his multiplied activities. His manner is open and free, but neither insolent nor vain. His face, which has not been glued down to books, does not rest

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[57] *Ibid.*, p. 60.

[58] *Ibid.*, pp. 123–124.

> on his stomach, and there is no need of telling him to hold up his head.

(3) *The Age of Reason*

The most crucial event in the entire life history of the human is the emergence of sex. It divides life into two parts:

> We are born twice, once for existing, and again for living; once for the species and again for sex.

This epochal change marks the birth of the soul. Hitherto, the life has been an animal existence; now, human sentiments, imagination, and reason emerge. Up to this time, the only psychological experiences have been sense and feeling. The period from twelve to fifteen Rousseau called the "Age of Reason," for the activity of the rational judgment is the most signal characteristic of this period.

Rousseau's psychology. The fundamental urge of life is activity that springs from the impulse for self-preservation. This impulsiveness is spontaneous, the expression of inner, animal feeling. Our first impulses are naturally self-ward, and all our movements are for individual well-being. Sensory experiences do not form the origin of the mental life, as Locke and others thought. It is not what comes from without, but what issues from within that produces behavior and determines the course of development. The rise of self-consciousness is a fact of deeper significance than the mere increase of sensory experiences.

Self-consciousness is a new principle of life—one which imparts unity and continuity to all the varied movements and experiences of the child. It marks the departure from the stage of mere animal feeling to the higher sentiments and faculties of the soul. From these sentiments arise man's higher life, for they form the motives of all adult passions and activities. Feeling, or impulsiveness, dominates all the early life, and forms the motive power and governing force of all activities throughout life. Rousseau's psychological views were formed as a direct protest against the prevailing materialism of the age.

Rousseau told the Pastor de Montmolin that one of his objects in view in projecting the *Emile* was to "raise himself clearly against the infernal book, *De l'Esprit,* which according to the detestable principle of its author pretends that feeling and judging are the same thing, which evidently amounts to establishing materialism." Many passages in the *Emile* are evidently directed against the author of the *De l'Esprit,* though his name is never mentioned. Rousseau wrote concerning this work published by Helvetius in 1758: [59]

> At the first appearance of the work *De l'Esprit,* I resolved to attack the principles I found dangerous. I executed the enterprise. When I learned that the author was persecuted, immediately I threw my leaves into the fire. . . . When all was quieted, I had the occasion of expressing my sentiments on the same subject in other writings [*Emile* and *La Nouvelle Héloïse*] but I have expressed it without mentioning the name of the author of the book.

Here unquestionably is one of the real secrets of Rousseau's writings, and it leads to the further question: In what respects did he disagree with Helvetius? In general one may say he differed from Helvetius on the following psychological points: (1) On the emptiness of the soul of the child at birth; (2) on the assumption that sensibility is the only mental faculty, and that all other faculties are derived from sensations; (3) on the claim of original equality and equal capabilities of all individuals; (4) on the claim that inner growth and development rather than outer environment are the primary source of change in individuals; and (5) on educational procedures.

Emergence of reason. Rousseau called the period from twelve to fifteen the "Age of Reason," because the dominant feature of the period is the emergence of the rational faculty. When he broke with the leaders of the Enlightenment, on account of their exaggerated emphasis on reason, he reacted at first to an extreme position and denied the value of the rational nature. Later he saw his error and assigned to reason a genuine, though subordinate, function in human development. As he conceived it, reason does not arise from sensation, as the materialists held; nor is it an original and innate principle, as the Rationalists believed. It is a natural faculty that had its origin in the emotional life.

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[59] Quoted by Grossman, M., *The Philosophy of Helvetius,* pp. 152–153. New York, Teachers College, Columbia University, 1926.

What causes the emergence of the rational judgment at this particular stage? Why should the faculty of reflection awaken at the dawn of puberty? The explanation which Rousseau offered is one of the deeper theories which he evolved. The inner life of the child is conditioned by the relation which his needs bear to the strength which he can exert for the satisfaction of those needs. In infancy, his needs are simple and few, and his strength is feeble. As he grows, his strength increases more rapidly than his needs.[60]

> At the age of twelve or thirteen the strength of the child is developed much more rapidly than his need.
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> This interval when the power of the individual is greater than his desires although it is not the period of his greatest absolute strength, is, as I have said, the period of his greatest relative strength.

From twelve to fifteen, owing to this pre-pubertial increment in his muscular power, the youth is much stronger than is necessary in order to satisfy his needs, which have as yet remained few and simple, providing his nature has not been corrupted by a precocious imagination.[61]

> He whose strength exceeds his desires has some power to spare; he is certainly a very strong being.

It is this preponderance of strength which marks this third stage of development. Rousseau explained that it is this increase in the individual's power, beyond the satisfaction of his needs, that causes reason to emerge during the third period.

Relation of intelligence to activity. Our needs or desires are the original cause of our activities; in turn, our activities produce our intelligence, in order to guide and govern our strength and passions, for "reason is the check to strength." [62]

> In proportion as a sensitive being becomes active, he acquires a discernment proportional to his powers; and it is only with the power which is in excess of what is needed

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[60] Rousseau, J. J., *Emile,* p. 133.

[61] *Ibid.,* p. 131.

[62] *Ibid.,* p. 84.

> for self-conservation that there comes to be developed in him the speculative faculty suited for employing that excess of power for other uses. If, then, you would cultivate the intelligence of your pupil, cultivate the power which it is to govern. Give his body continual exercise; make him robust and sound in order to make him wise and reasonable; let him work, and move about, run, and shout, and be continually in motion; let him be a man in vigor, and soon he will be such by force of reason.

Reason, an accessory faculty. Now, inasmuch as intelligence springs from our activities, these must be developed to a high degree before reason appears. This idea of the late emergence of the reasoning faculty is one of the characteristic theories put forth by Rousseau. In his early life the child cannot reason, for "childhood is the sleep of reason." Furthermore, Rousseau declared: "Of all the faculties of man, reason is that which is developed with the most difficulty and the latest."[63] Only when the child reaches the age of twelve does reason begin to stir, and the time for its uninterrupted development is exceedingly brief. When the strength of the child is augmented out of proportion to his needs, reason awakens in order to furnish guidance and control, for these are the functions of the rational life.

Education during the age of reason. This stage when reason emerges is highly important because it is the age when real education by human agency begins. Up to this time, the unfolding of the child has taken place by virtue of a power inherent in his nature. The course of his development has been determined by natural laws. With the action of these laws the educator must never interfere. However, in the new period, human agencies begin to direct the unfolding process. "This, then, is the period of labor, of instruction, and of study."

Teachers have made numerous mistakes because they have not understood the nature of reason and the time when it arises. (1) The first blunder was the attempt to educate the child through reason. Even Locke advised this. But this practice places the cart before the horse: "It is to begin at the end, and to confound the instrument with the work."

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[63] *Ibid.*, p. 52.

All effort to reason with children before reason emerges is not only foolish but injurious.[64]

> The common error of parents, who pique themselves on their own knowledge, is to suppose their children capable of reasoning as soon as they are born, and to talk to them as if they were grown persons before they can speak. Reason is the instrument they use, whereas every other means ought first to be used in order to form their reason; for it is certain, that of all the knowledge which men acquire, or are capable of acquiring, the art of reasoning is the last and most difficult to learn. By talking to them at so early an age, in a language they do not understand, they learn to be satisfied with mere words.

The design of nature is evidently to strengthen the body before the mind is exercised. When allowed to awaken at its proper time, reason projects the future of the child.[65]

> What, then, shall our pupil do with that surplus of faculties and powers which he has on hand at present, but which he will stand in need of at a subsequent period of life? He will endeavor to employ it in tasks which may profit him when the occasion comes; he will project into the future, so to speak, that which is superfluous for the time being. The robust child will make provision for the feeble man.

(2) A second blunder is to substitute authority for the child's own mental efforts. Against this error Rousseau frequently protests.[66]

> If you ever substitute in his mind authority for reason, he will no longer reason; he will be but the sport of others' opinions. . . .
>
> Compelled to learn for himself, he uses his own reason and not that of others; for in order to grant nothing to opinion, you must grant nothing to authority. . . . He has a mind that is universal, not through its knowledge, but through its facility of acquiring it; a mind that is open, intelligent, ready for everything. . . . Once more, my pur-

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[64] Rousseau, J. J., *The New Héloïse*, Letter CXXXIX.

[65] Rousseau, J. J., *Emile*, p. 133.

[66] *Ibid.*, pp. 137 and 188–189.

pose is not at all to give him knowledge, but to teach him how to acquire it when necessary.

(3) The greatest mistake of traditional pedagogy consisted in attributing to reason a power of directing life which it does not possess. This was the chief error of the Rationalists. As reason appears later than the activities and passions, and as it emerges out of them, it is subordinate to them. It is not the driving power, nor the end of life. It is not even the reliable guide for conduct. Rousseau startled philosophy by declaring that "the divine voice of man's heart and his inner conscience alone are the infallible guides and capable of bringing him happiness."

Imagination. Of all the faculties which emerge at this stage, Rousseau had a positive aversion for the imagination. He never spoke of imagination as producing anything that is good. It conjures up the fanciful images which are in conflict with reality. It creates those unnecessary and artificial needs which spring from social rivalry. It inflames the passions and directs them toward their object. It is, therefore, the one faculty that more than any other is responsible for the vices and evils of social life.

Curiosity and usefulness as motivations. As the feeling of need causes the activity of the body, so curiosity causes the activity of the mind. It is the natural motive power for intellectual life. The child is curious, because every new object or situation has significance for his struggle for life and well-being. The development of curiosity takes place only in relation to the growth of needs and passions. As curiosity is caused by desire for well-being, it relates only to that which will be of real service to the child. Utility is, therefore, the one and only principle that determines the materials to be included in the curriculum at this stage.

All the artificial means that teachers employ to induce children to work—such as the sense of honor, pride, rivalry, or the approval of elders—are wrong and injurious. The true motive for learning is the desire to know, or the usefulness and service of knowledge. Rousseau agreed with Bacon, Comenius, and Locke in exalting usefulness as the best motivation.

Rousseau's hatred of rivalry. Rivalry, or emulation, had always been one of the chief instruments of motivation in the schools. The Greeks had made much use of this motive in their gymnastic training. In modern education the Jesuits relied upon it to an extraordinary extent. Rousseau regarded it as the arch evil of social life and utterly prohibited its employment.[67]

> Let there never be comparisons with other children; as soon as he begins to reason let him have no rivals, no competitors, even in running. I would a hundred times rather he would not learn what he can learn only through jealousy and through vanity.

There can be no doubt that it is this severe onslaught of Rousseau which has, since his time, discredited the use of emulation.

The curriculum. As intellectual instruction begins at this period, one looks for a definite course of study. But how strange a curriculum is projected! The most accurate delineation of the inner life and needs of Emile at the stage from twelve to fifteen years is to be found in the character of Robinson Crusoe on his island. By sheer force of circumstances Crusoe must utilize his intelligence in order to live. He is not interested in human relationships, for he has none. The phenomena of nature absorb his thought, and only those that make a genuine contribution to his efforts for self-preservation receive attention. Geography and astronomy are the first subjects of interest—these to be learned not from books but directly from nature. Then follow the various phenomena of physical science. These in turn lead over to agriculture and to the manual arts and crafts. As Emile has already a good general acquaintance with all these, he is to be trained more expertly in cabinet-making. Such is the curriculum of this stage.

It will be seen that Emile has only acquired natural and purely physical knowledge. He does not know even the term *history,* nor what ethics and metaphysics are. He learns the essential relations of man to nature and to things, but nothing of direct human relationships. If this curriculum appears extremely narrow and limited, it is due to the deliberate purpose of the creator of Emile. Always recollect, he warned:[68]

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[67] *Ibid.,* p. 161.

> The spirit of my system is not to teach the child many things, but never to allow anything to enter his mind save ideas which are accurate and clear. Though he learns nothing, it is of little importance to me, provided he is not deceived.

The purpose is, not to acquire a vast amount of scientific knowledge at this stage, but to exercise the mind in a natural and functional manner, and to prepare the child for future acquisition.[69]

> It is not proposed to teach him the sciences but to give him a taste for them, and methods for learning them, when this taste shall be better developed. Without doubt this is the fundamental principle of all good education.

The central concern of Rousseau is, not so much in the materials to be learned in acquiring even useful information, but rather in giving an idea of (1) method of procedure, (2) a taste and desire for knowledge, or an abiding curiosity, and (3) clear and accurate ideas that the child can grasp.[70]

> Once more, my purpose is not at all to give him knowledge, but to teach him how to acquire it when necessary, to make him estimate it exactly for what it is worth, and to make him love truth above everything else.

The method in the training of youth. One must turn to Rousseau's method in order to appreciate his view of the curriculum. As he declared:[71]

> Without doubt we derive much clearer and much more accurate notions of things which we learn for ourselves than of those which we gain from the instruction of others.

The first principle of Rousseau's method is that nothing should be learned on the authority of others.[72]

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[68] *Ibid.,* p. 143.
[69] *Ibid.,* p. 144.
[70] *Ibid.,* p. 189.
[71] *Ibid.,* p. 152.
[72] *Ibid.,* pp. 84–85.

> Subject in everything to an authority that is always teaching, your pupil does nothing except at the word of command. . . . To what purpose do you desire to have him think if you do all his thinking for him? . . . The pupil of Nature early trained to rely on himself as much as possible, is not in the habit of constantly resorting to others.

This principle of self-help and independent research was probably the result of Rousseau's own experience with learning. It is for the same reason that the use of books was prohibited. Authoritative instruction disrupts the normal functioning of the mind and disgusts the child with learning. Again, in the same vein, he declared: [73]

> Not accustoming our reason to submit slavishly to authority, we become more ingenious in discovering relations and in associating ideas, than when, accepting all this just as it is given us, we allow our minds to become weighed down with indifference.

Central principle of method. Rousseau would place Emile in such circumstances that he would be obliged to depend upon his own strength, to win his own bread, to think his own thoughts, to reach his own conclusions—in fact, to use his own brains and never to depend on the opinions of others. He is to be told nothing; then, because of necessity, he will discover and invent for himself. Like Crusoe on an isolated island, he must depend wholly on the use of his own powers and intelligence.

To the objection that such a method of acquiring knowledge would be too burdensome and require too great a length of time, Rousseau responded as follows: [74]

> You fear lest I weigh down his mind under this mass of knowledge. The very contrary is true: I teach him much more to ignore these things than to know them. I show him the route to learning, easy, in truth, but long, boundless, and slow to traverse. I have made him take the first steps in order that he may recognize the entrance to it, but I shall never allow him to go far.

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[73] *Ibid.*, p. 152.

[74] *Ibid.*, pp. 188–189.

> Compelled to learn for himself, he uses his own reason and not that of others; for in order to grant nothing to opinion, you must grant nothing to authority; and most of our errors come much less from ourselves than from others. From this continual exercise there should result a vigor of mind.

Substitution of symbol for object condemned. Rousseau's second principle is equally positive: Everything must be learned by direct observation of concrete things, and by discovery.[75]

> Why not begin by showing him the object itself, so that he may know, at least, what you are talking about!

Again, in speaking of moral training, he declared: [76]

> The master ought not to give precepts, but should cause his pupil to find them.

Rousseau could not too vigorously condemn the ancient practice of substituting the word, or other symbol, for the object. Of this he said: [77]

> In general, never substitute the sign for the thing itself save when it is impossible to show the thing; for the sign absorbs the attention of the child and makes him forget the thing represented.

And again: [78]

> Things! Things! I shall never repeat often enough that we give too much power to words. With our babbling education we make nothing but babblers.

Pupil must invent apparatus. Another principle which Rousseau repeatedly insisted upon is that the pupil should make all of his own apparatus. After as much correct observation of geographic facts as possible, he is to make charts, maps, and globes. Similarly, the apparatus employed in the sciences and all other philosophic appliances are to be invented by the pupil.[79]

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[75] *Ibid.,* p. 137.
[76] *Ibid.,* p. 20.
[77] *Ibid.,* p. 141.
[78] *Ibid.,* p. 157.

> Emile will never have dissected insects, will never have counted the spots on the Sun, and will not know what a microscope or a telescope is, your wise pupil will ridicule his ignorance, and they will not be wrong; for before using these instruments, I intend that he shall invent them.

Again: [80]

> I wish we might make all our own apparatus; and I would not begin by making the instrument before the experiment; but, after having caught a glimpse of the experiment, as by hazard, I would invent, little by little, the instrument which is to verify it. I prefer that our instruments should be less perfect and accurate, and that we should have more exact ideas of what they ought to be.

Picture of ideal youth. Rousseau presents the ideal boy at the end of this stage of life. Emile is industrious, temperate, patient, firm, and full of courage and endurance.[81]

> [He] has every virtue which is related to himself. In order to have the social virtues also, all he lacks is to know the relations which exact them. . . . He has no faults, and no vices. He has a sound body, agile limbs, a just unprejudiced mind, and a heart that is free and without passion.

It now remains for education to socialize the individual.

(4) *Education from Fifteen to Twenty*

The social period. The genetic principle is the most outstanding doctrine that Rousseau gave to the world in the *Emile*. His plan of isolation, his insistence upon individuality, and his naturalism are after all only relative, and preparatory for something more important. His real goal is idealistic, the development of the highest virtues, such as sympathy, generosity, friendship, equality, gratitude, and universal justice. But these are the products of human relationships and are capable of development only in the adolescent heart.

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[79] *Ibid.*, p. 188.
[80] *Ibid.*, p. 151.
[81] *Ibid.*, pp. 190–191.

Limitations of the child mind. The mind of the child is limited to a low stage of experience. He knows things as individual objects; he does not understand the relations of things to one another or to man. To perceive relations requires inner experiences, more especially an integrating power of mind which is beyond the child's capacity. He is wholly unable to rise to the consciousness of the unity of things. He does not yet fully know himself and, in consequence of this weakness, he cannot judge others. He is "sense-bound," and all abstractions are unintelligible to him. He is, accordingly, incapable of social life and religious experience. In his earlier stages, he cannot understand and enter into human relationships, without injury to his social being. He cannot appreciate and comprehend the meaning of life. The world of the spirit, morality, art, and philosophy are as yet sealed to him. Nevertheless, these are the interests that raise mankind above the level of the savage. Up to fifteen, Emile has a knowledge only of the natural or physical world. He knows nothing of history, morals, or society. He can generalize but little and can comprehend but few abstractions.

The crucial development. All the highest experiences and sentiments arise as the result of the emergence of the sex life. It is the source of the social urge. The awakening of sex arouses many other sentiments which are secondary to it. Among those are the appreciation of beauty, the perception of human relations, the sense of moral and social life, religion, and the general integration of all the higher capabilities of the soul.[82]

> As soon as man has need of a companion, he is no longer an isolated being, his heart is no longer alone. All his relations with his species, and all the affections of his soul are born with her. His first passion soon causes the rise of others.

Social and moral life. Having, through his own unfolding feelings, become conscious of others and of his need of others, Emile is now obliged to begin an introspective study of his own nature and of his relations to others. Two important results follow:[83]

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[82] *Ibid.*, p. 196.

> The study proper for man is that of his relations. . . . When he begins to feel his moral nature, he ought to study himself through his relations with men, and this is the occupation of his entire life beginning at the point we have now reached.

The task of education during this period of adolescence is to arouse and direct the emotional life.[84]

> It is at this age that the skillful teacher begins his real function as an observer and philosopher who knows the art of exploring the heart while attempting to mould it.

First of all is the need of warding off the evil passions:[85]

> My Emile having thus far regarded only himself, the first look which he throws upon his fellows leads him to compare himself with them, and the first feeling which the comparison excites within him is to desire the first place. This is the point at which the love of self changes into self-love, and where begin to arise all the passions which depend upon it. But in order to decide whether those of his passions which shall dominate in his character shall be humane and beneficent, or cruel and malevolent, whether they shall be passions of benevolence and commiseration, or of envy and covetousness, it is necessary to know to what place he will aspire among men.

The sentiments which Rousseau would seek to arouse in the unfolding of the higher nature are: friendship, human sympathy, gratitude, love, justice, goodness, and philanthropy. They are to be awakened by the study of psychology, sociology, morals, and politics. These subjects are not to be studied indirectly through books or lectures, but to be experienced in the observation of life. The new art of social education comes by experiencing these feelings in contact with life situations.

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[83] *Ibid.*, pp. 195–196.
[84] *Ibid.*, p. 205.
[85] *Ibid.*, pp. 210–211.

The curriculum. Rousseau remains still the exponent of naturalism, even in the unfolding of the highest activities of soul life. Everything must come from the genetic unfolding of the inner feelings, for all is subjective. The true work of education is the inner emergence, growth, exercise, and integration of the feelings, sentiments, and passions of the soul. It is not so much a process of outer discovery, or observation of an objective reality, as the evolution of inner feelings which invests outer phenomena with meaning, use, and value.[86]

> The living spectacle of Nature is in the heart of man; and to see it, it must be felt. . . . How will the song of birds cause him a rapturous emotion, if the accents of love and pleasure are still unknown to him? . . . How will he be affected by the beautiful spectacle of Nature, if he does not know the hand that has taken care to adorn it?

The awakening of inner feelings must precede the attributing of these feelings to outer experiences. There must take place the inner integration of feeling, thought, and will, before the mind can rise to the faith that the world without is likewise a unity. With this inner development and integration, the world of spirit, morality, duty, art, religion, and philosophy dawns upon the vision. It is this inner unfolding and enrichment of experience which have raised civilization above the level of the savage.

The curriculum of this period will include a knowledge of human nature and of the social order, which today one would classify as psychology, sociology, and ethics. Rousseau did not have in mind primarily the study of these subjects in books; against that point of view he was always careful to warn the reader. Rather these studies are of concrete life situations, the warm experiences of the actual relations of living men. History in the form of biography and what we now know as social history, he would admit. Religion, also, is to play a most important role; but it is to be the natural religion of the human heart and not the dogmas and creeds of the past. Of literature Rousseau would favor the ancients, though a glance is given at the moderns as well.

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[86] *Ibid.*, p. 139.

V. THE EDUCATION OF THE GIRL

The education of the boy Emile begins with the most radical naturalism and individualism, but ends by evolving an idealist. The education of the girl, on the other hand, is hopelessly traditional throughout. Rousseau justified himself by the rather commonplace arguments that girls differ from boys in their nature and that "woman is especially constituted to please man," and concluded: [87]

> Thus the whole education of women ought to be relative to men. To please them, to be useful to them, to make themselves loved and honored by them, to educate them when young, to care for them when grown, to counsel them, to console them, to make life agreeable and sweet to them —these are the duties of women at all times, and what should be taught them from their infancy.

Thus Rousseau justified in the education of the girl the very procedure which he so passionately opposed in the case of the boy.

Education a series of antinomies. In making a final judgment of the philosophy of Rousseau, it is necessary to understand that he found in human nature, in society, and in the work of education conflicting principles and tendencies. His genuine philosophic insight made him aware of these antagonisms, but they meant more to him than an opportunity to create paradoxes. That he endeavored to transcend these conflicts and reach some higher level of reconciliation gives one a deeper respect for his genius. It is not necessary to deal at length with the many antinomic conflicts which he set forth.

First of all, he found in the depth of his own nature a conflict of the real and the ideal which reminds one strongly of the similar struggle of St. Paul. Of this, Rousseau explained: [88]

> On contemplating the nature of man it seemed to me that I could discern two distinct principles, one of which raises

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[87] *Ibid.*, p. 263.

[88] Rousseau, J. J., *Profession of Faith of a Savoyard Vicar,* in HARVARD CLASSICS, Vol. 34, p. 264.

> him to the study of eternal truths, to the love of justice and of moral beauty, to the regions of the intellectual world on which the wise man delights to meditate, while the other thrusts him back on his own pettiness, subjects him to the dominion of the senses and to the passions which serve them, and by means of them frustrates all that the sentiment of the first principle inspires in him. I wish and yet I do not wish. . . . I feel myself at once a slave and a free man. I see the good and love it; and yet I do evil. I am active when I listen to reason, passive when my passions lead me astray; and my worst torment when I succumb is to feel that it was in my power to resist.

A similar conflict is found between orginal human nature and society. In the process of education, this struggle appears between the general education for manhood and the making of a citizen.[89]

> Compelled to oppose nature or our social institutions, we must choose between making a man and a citizen, for we cannot make both at once.

Again, general education and vocational training are antagonistic: [90]

> In the natural order of things, all men being equal, their common vocation is manhood, and whoever is well trained for that cannot fulfill badly any vocation connected with it. Whether my pupil be destined for the army, the church, or the bar, concerns me but little. Regardless of the vocation of his parents, nature summons him to the duties of human life. To live is the trade I wish to teach him.

Rousseau thus pleaded the cause of general culture in preference to the early specialization in vocational training.

Among the numerous other conflicts which he sought to resolve are: The freedom of nature and the conventionality of human society; the original spontaneity of the child and the system of formal discipline; naturalism and idealism; the sense of freedom and that of duty or obedience; the natural goodness of the human heart and social depravity; the psychology of memory and that of reason; the power of imagination, or fancy, and the strict sense of reality; man and woman; and sensibility and reason. Rousseau struggled to find some means of reconciling these various antinomies in human nature. He attempted to reconcile many of them by assigning them to the successive stages of development. He was far from successful; but, as a matter of fact, neither has any other educator been entirely successful in finding a system of education that completely harmonizes all these conflicting principles.

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[89] Rousseau, J. J., *Emile,* p. 5.

[90] *Ibid.,* p. 8.

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CHAPTER XIV

GERMAN EDUCATIONAL REFORMERS DURING THE EIGHTEENTH CENTURY

Reform movements and their representatives. The second half of the 18th century saw a lively enthusiasm for educational reform spring up among the higher classes of Germany. This renewed interest was, in large measure, due to the great changes in thought and social life which were affecting the western European world. These movements, as indicated in earlier chapters, were: (1) the Enlightenment; (2) the rise of Naturalism; (3) Romanticism; (4) Physiocracy; and (5) the decline of the church, and the corresponding ascendancy of the state. Germany responded to the impact of these new doctrines in characteristic fashion.

In the background of Germanic life reposed the pietistic spirit, a profound sense of subservience to the princes and the state, and a strong tendency toward idealism combined with a practical interest in realism. It was the combination of these characteristics which saved the Germans from the superficial materialism which satisfied the shallower temperament of the French, and also from the tragedy of bloody revolution. German thought had received a decided rationalistic trend from the philosophy of Leibnitz and Wolff, and was readily transformed into ethical idealism by Kant, Schelling, and Fichte. The Naturalism and Romanticism of the French were not without their influence, for they resulted in the new Humanism of the German classical scholars and literary men during the latter part of the century. These leaders, in their striving after spontaneous self-expression, came to feel that the freest and most natural expression of the human spirit was represented in the ancient Greeks. In the artistic products of the Hellenic race, human genius had reached its climax.

Interest in education, long dear to the hearts of the leaders of Germany, now became all-powerful. The pietistic-realistic movement was carried forward by Johann Julius Hecker. The influence of the Enlightenment was represented by Frederick the Great. Johann Bernhard Basedow, in large measure, put into practice the principles of Rousseau. Frederick Eberhard von Rochow and John Ignaz von Felbiger were representatives of the benevolent reforms of the Physiocrats. The work of several of these leaders needs to be studied in order to secure a satisfactory knowledge of educational progress in Germany.

1. Johann Julius Hecker

Hecker and the realistic movement. The chief interest in this amiable German pastor-educator, Hecker (1707–1768), lies in the fact that he brought to maturity some of the most important contributions of the pietistic movement. In youth, he came under the influence of Francke: first, indirectly through the rector of the gymnasium at Essen, where he studied; and then, directly when he attended the University of Halle, and when he taught in the famous *Pädagogium* for several years after his graduation.

In 1739, Hecker became pastor of Trinity Church, Berlin, a position which presented an excellent opportunity to engage in educational activities under advantageous circumstances, because of royal patronage. The King of Prussia followed Hecker's efforts with the closest attention, and supported his institutions with royal bounty. Hecker began his educational reforms by improving the schools of his parish. He manifested deep interest in the instruction of poor children. In almost every street, well appointed and supervised schools were established. For this purpose he obtained means through a lottery—a system of financing education which later was commonly employed for a long time, even in America.

In 1747, Hecker opened the first permanent school of realistic studies under the name *Oekonomisch-Mathematische Realschule*. This institution was designed particularly for boys who were not to receive a finished education; but students in the Latin school were likewise permitted to pursue the various realistic lines of instruction at their option. The curriculum was comprehensive, including:[1]

> . . . arithmetic, geometry, mechanics, architecture, drawing, and the knowledge of nature. A knowledge of the human body was especially taught, then plants and minerals, and instruction was given in the cultivation of mulberry trees and silk-worms, and the scholars were taught by being taken to workshops. Among the classes were a manufacturing class, an architectural class, an agricultural class, a bookkeeping class, and a mining class.

For some years J. F. Hälm was the teacher of the *Realschule* and he put into practice the object-lesson method. In regard to this, we are told:[2]

> A large collection of real objects was used, among which were models of buildings, ships, chests, plows, churns, columns of the different orders, pictorial representations of an entire Roman triumphal procession, collections of merchandise, a miniature shop, a pharmacological collection, specimens of leather and other things. There was also a botanical garden.

In these subjects and in the method of instruction, this school followed in the wake of Comenius and Semler, and anticipated the application of the object-lesson principle by Rousseau, Basedow, and Pestalozzi. Hecker's efforts largely failed to accomplish his full purpose because he was overpractical. He made the school merely a workshop for training in trades. Not until later did it become clear to German educators that the *Realschule* must develop intelligence as to fundamental physical processes, and avoid the mechanical training of the trade school.

Teacher training. Another movement which Hecker carried forward according to the example of Francke was the training of teachers. He established a teachers' seminar in connection with his elementary schools. In this undertaking, also, he had the assistance of Frederick the Great, King of Prussia, who even went so far as to require that all teachers to be employed in the schools located on his private domains were to be educated in this institution.

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[1] Barnard, Henry, *German Teachers and Educators,* p. 437. Hartford, Brown and Gross, 1878.

[2] *Ibid.,* pp. 437–438.

Hecker and the general school law of Prussia. Hecker's influence reached its climax when Frederick directed him to prepare the general school regulations of 1763. This law established the elementary school system of Prussia on a new and permanent basis.[3]

2. Basedow and the Philanthropinists

Basedow's career. Johann Bernhard Basedow was by far the greatest of the German school reformers of the 18th century. He was born in Hamburg in 1724.[4] His father was a wig-maker and in poor financial circumstances. He forced the boy at a tender age to deliver wigs to his customers. In this way the lad, already eccentric by heredity, became a street gamin, learned to play dirty tricks, and, as a consequence, remained coarse and ill-mannered all his days. His mother suffered from deep melancholy, and Basedow inherited a very unstable mentality. He was erratic, heterodox in religion, irregular in his habits, constitutionally incapable of sustained effort, and frequently drunken and vulgar to obscenity.

Basedow's early education was deficient, since the harshness of his father caused the boy to run away from home. A philanthropic individual discovered that, in spite of his glaring faults, Basedow was gifted. Persuaded to return home, he attended the gymnasium, and in due time entered the University of Leipzig to study for the Lutheran ministry. He did not apply himself to his studies consistently; furthermore, he became attached to rationalistic views which made him too heterodox to occupy acceptably the pastoral office. In place of theology he gave chief attention to education, and later became a private tutor in the family of Herr von Quaalen, of Holstein. His pupil was a boy of seven, whom he taught informally—lessons being given as they walked, rode, or played. Tutor and pupil learned to speak Latin together in daily conversation about commonplace objects; but, as might be suspected, it was a doggerel Latin. This experience as a tutor was, however, of greatest importance to him, for it turned his attention quite definitely in the direction of the reform of educational methods. So deep was his interest that he wrote his master's thesis in this field.

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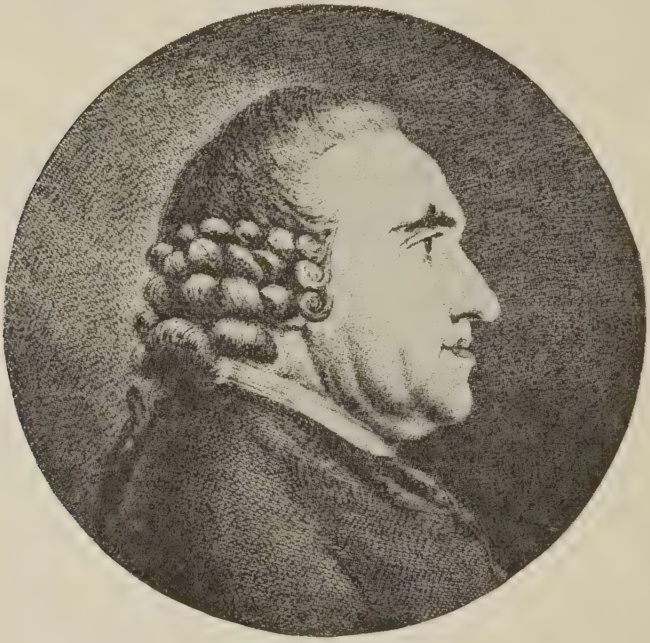
[3] See pages 585–587 of this text.

[4] Many writers state 1723, but the weight of authority now inclines to the later date.



Johann Bernhard Basedow.

After taking his master's degree at the small University of Kiehl, he was appointed professor of ethics and *belles-lettres* at the knightly academy at Soroë, in Denmark. On account of his unorthodox writings, he was soon removed to the gymnasium at Altona. But here, again, his heterodoxy gave offense and he was removed from office. For some years he devoted himself to literary activities along theological lines; this occupation, however, did not prove very remunerative.

The reading of Rousseau's *Emile,* in 1762, turned his attention once more to the reform of education. He likewise became acquainted with the *Essay on National Education* (*Essai d'Education Nationale*), by La Chalotais, which appeared the next year. These two books had a profound influence upon him. He is usually considered to be a strict disciple of Rousseau, and to have attained his fame merely by putting the doctrines of the *Emile* into practice. Recent investigations indicate that La Chalotais' influence over him was as great as that of Rousseau. However, it is incorrect to conceive that these two were the only forces which affected him. He was familiar, at least to a certain extent, with the pedagogy of Comenius, but he knew far better the views of Locke, Francke, and others. The truth is that Basedow was merely an eclectic who chose and pieced together with remarkable discernment a pedagogical platform which attracted attention out of all proportion to its merits. Nevertheless, he correctly sensed what the leaders of German life were looking for in the way of educational reform.

Pedagogical writings. Basedow was a voluminous writer, but only a few of his works are of lasting importance, especially in education. In 1768, he issued a ringing message entitled: *Appeal to the Friends of Mankind and to Men of Power Concerning Schools and Studies and their Influence on Public Welfare.* This work outlined his views as to educational reform in organization, curriculum, and methods. It was an appeal to benevolent men to furnish the funds that would permit him to write a new and elaborate textbook for the guidance of parents. So broadminded and promising was his scheme that this appeal met with a tremendous response. Kings, princes, literary men, and statesmen quickly became subscribers not only in Germany but elsewhere. Among others were the Swiss notables, Iselin and Lavater; and the Austrians, Abbot Felbiger and Moses Mendelssohn. His proposal brought a favorable response from Catholics, Jews, and Protestants, as well as from the Masonic and other fraternal orders. A remarkable sum was provided for Basedow to carry out his project.

The result of his labors was the preliminary publication of the *Book of Methods* (*Methodenbuch*), in 1770. Its full title was: *Book of Methods for Fathers and Mothers of Families and for Nations.* The *Elementary Book* (*Elementarbuch*) followed half a year later. In 1774, the two works were combined and published in four volumes with one hundred engravings. This was the greatest effort at writing textbooks since the time of Comenius. The entire work was designed to cover the education of children up to eighteen years of age; its purposes were stated as follows: [5]

1. Elementary instruction in the knowledge of words and things.
2. An incomparable method, founded upon experience, of teaching children to read without weariness or loss of time.
3. Natural knowledge.
4. Knowledge of morals, the mind, and reasoning.
5. A method, thorough and impressive upon the heart, of instructing in natural religion. . . .
6. A knowledge of social duties, of commerce, etc.

This work of Basedow has been called the *Orbis Pictus* of the 18th century. It was quite obviously inspired by that celebrated textbook of Comenius, which remained well known even when his other works were in the dust of oblivion. The *Elementarwerk* aroused tremendous enthusiasm, and Basedow was hailed by many as "the greatest benefactor of mankind."

The *Philanthropinum*. One of the most valuable suggestions of Basedow was that a school be established in which his principles could be demonstrated. Struck with this suggestion, Prince Leopold of Anhalt-Dessau invited Basedow to organize such an institution in his capital city, Dessau; and he provided buildings, salaries, and other facilities for the project. Accordingly, in 1774, Basedow set up a small school for boys of the upper classes of society, and christened it with the strange name *Philanthropinum*. By this term he sought to express the rather complex idea that the institution was the child of philanthropy—the result of the love of men for mankind and for the training of the young to humanitarian ends.

The school flourished at times and then again suffered periods of sad decline. Basedow was a complete failure as an administrator, and had to be dismissed. Most of his principles were good, but only other men could put them into successful practice. Although the institution for a short time became celebrated, it always had within it the seeds of dissolution.

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[5] Barnard, Henry, *op. cit.*, p. 458.

Basedow's educational aim. The aim of his school was simple and yet very comprehensive: to prepare children for useful and happy living. However, it must be remembered that Basedow had in mind only the upper and middle classes of citizens and not the children of the masses. He proposed to produce citizens of Europe with the broadest patriotism and religious sentiments. Such was the cosmopolitan outreach which characterized idealistic Germany before the unfortunate onset of the narrow spirit of nationalism which grew up in the 19th century.

State education completely independent of the church. The 18th century witnessed the passing of the control of the school from the hands of the church. The chief reasons for this development are given elsewhere in this text.[6]

La Chalotais, the French statesman, in his *Essai* in 1763, threw down the challenge to the church in striking terms: [7]

> I claim the right to demand for the Nation an education that will depend upon the State alone; because it belongs essentially to it, because every nation has an inalienable and imprescriptible right to instruct its members, and finally because the children of the State should be educated by members of the State.

Basedow read this work and became an ardent advocate of state control of education. The schools, he believed, must be opened to children of all religious views: Jews, Catholics, Protestants, and even those of no religious convictions. The state alone can successfully operate such schools. In his insistence upon a school free from the intolerance of the state church, he declared: [8]

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[6] See page 574 *et seq.*

[7] Translated by La Fontainerie, F. de, *French Liberalism and Education in the Eighteenth Century,* p. 53. New York, McGraw-Hill, 1932.

[8] Adamson, J. E., *Short History of Education,* pp. 217–218. Translated from *Vorstellung an Menschenfreunde und vermögende Männer über Schulen und Studien und ihren Einfluss in die öffentliche Wohlfahrt.*

> In a country containing different religious bodies, where public schools are supported at the general expense to which each inhabitant contributes, fairness requires that the benefit of these schools should be shared in common, and that no children should be excluded from them on account of religion or sect. This is evident, also, because the state demands a like loyalty and patriotism from all its children and therefore must be free from partisanship in all political affairs.

Basedow went even further and urged that a "State Superior Council for the Supervision of Public Instruction" be established. This suggestion doubtless had weight in the establishment of the *Oberschul-Collegium* in 1787, when the control of Prussian schools finally passed to the state.

Basedow's methods. As to principles of method, Basedow chose with deep insight the best that had been suggested by other writers, and he skillfully put them together into a unified system. He was not so much an originator of new conceptions; but one must admire his ability to utilize what he found of value in the writings of others. The chief points which he emphasized may be summarized as follows:

(1) Everything should be taught by means of objects, pictures, and models. In line with this, his book on elementary methods contained one hundred copper engravings, which formed the basis of instruction. In his master's thesis he wrote the following statement, which goes to the heart of the principle of sense experience:

> All our knowledge comes from the senses, and experience of things is our teacher. Many things in all studies remain obscure to children for this reason alone: that they have neither been seen nor heard.

(2) Words must be taught together with things or pictures of things. This was the central feature of his practical method. Basedow was not by any means a classical or linguistic scholar. He really had little interest in Latin, and less in Greek. However, on account of the popular demand for Latin among the upper classes of society, he taught this language, as well as French, along with German. He taught all languages by the direct or conversational method and by

means of games. In 1776, to demonstrate the success of his methods, he held a public examination to which he invited men of the greatest celebrity. The report of this examination gives interesting glimpses of his procedure: [9]

> The children did some very droll things. First they played the commander game; all together, some eight or nine; this was the way. First, they all stood in a row, like soldiers. Herr Wölke was commander; he commanded in Latin, and they were to do everything that he said. For example, when he said *claudite oculos,* they all shut their eyes; or, *circumspicite,* and they all looked around them; or, *imitamini sartorem,* and they all sewed like tailors; or *imitamini sutorem,* and they all drew out waxed-ends, like cobblers.
>
> [Herr Wölke, the instructor in charge of the examination, ordered a thousand queer things.]
>
> Now I will tell you about the other game; the hiding game. In this, a word is written behind the blackboard, where the children can not see it; the name of some part of the human body, or of a plant, or a beast, or a metal; and then they guess what it is, until one of them guesses it; and the one who guesses it has an apple or a piece of cake for a reward. One of the visitors wrote on the board, *intestina,* the intestines; and told the children that it was a part of the human body. They then began; one guessed *caput,* others *manus,* or *nasus, pes, digiti, pectus, collum, labium, genu, aures, oculi, crines, dorsum,* and so on for a long time, until at last one cried out it is the intestines! Then Herr Wölke wrote the name of a beast. They then began; if you could have seen it! *Leo, ursus, camelus, elephas,* for you must understand it was a four-footed animal, *eques, bos, asinus, vacca, sus, canis,* etc. Well, now I remember it! at last one said *mus,* a mouse; he had guessed it, and he received a piece of cake. Once the name of a city was written; and then they guessed Lisbon, Madrid, Paris, London, Stockholm, Copenhagen, until they came to Petersburg, which was the name written behind the board.

(3) Education is more important than instruction. This signifies that mere learning is not the most significant attainment, but that the child is more to be trained by means of

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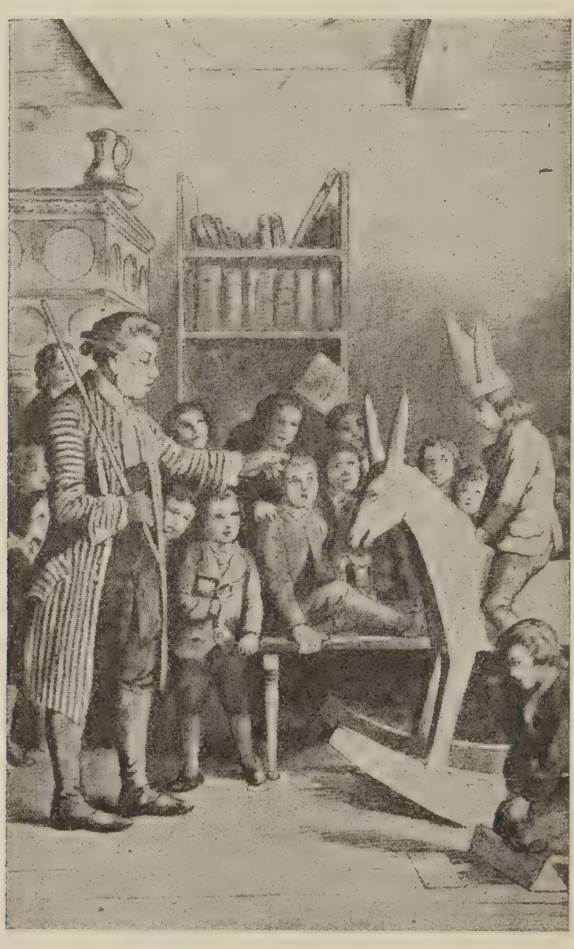
[9] Barnard, Henry, *op. cit.,* p. 469.

discipline and good environment. The truth is that Basedow did not have a high regard for learning as such.

(4) Another principle which he took from the era of Realism was that all learning must be useful. Education must prepare for life, but not necessarily should it anticipate life.



A German Schoolroom of the Eighteenth Century.

(5) Following the theorists of several centuries, Basedow insisted that discipline must not be harsh. He used punishments and also rewards. He advocated making the punishment fit the delinquency. But he believed in making training

so pleasant that there would be little need of harshness. The other schools of the day were noted for their cruelty.[10]

The curriculum. The curriculum was fairly encyclopedic and reminds us of that proposed by Comenius. It included three languages, Latin, French, and German; though, as already indicated, Basedow's aim was not humanistic in the classical sense. Other common subjects, which he included, were arithmetic, geography, geometry, and history. The realistic studies received the greatest attention. Included in these were natural history, anatomy, physics, carpentering, and turning.

Rousseau would have Emile learn through his own activities and his own curiosity. To this end he was to practice the fundamental arts of mankind for the enrichment of his experience. Basedow followed this principle closely. The pupils went on excursions to studios, farms, mines, and military camps. They visited the shops of artisans to observe the work of the various industries, and the markets to learn of commerce and exchange.

Social relations were likewise observed in the concrete. The boys regularly attended the court of the prince to learn manners. In fact, manners and morals formed the most important part of training. Like Rousseau, Basedow revolted against fables for the teaching of morals.

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[10] The greatest illustration of the inhuman schoolmaster, we are informed, was the Swabian Häuberle.

"During the fifty-one years and seven months of his official life, he had, by a moderate computation, inflicted 911,527 blows with a cane, 124,010 blows with a rod, 20,989 blows and raps with a ruler, 136,715 blows with the hand, 10,235 blows over the mouth, 7,905 boxes on the ear, 1,115,800 raps on the head, and 22,763 *notabenes* with the Bible, catechism, singing book, and grammar. He had 777 times made boys kneel on peas, and 613 times on a three-cornered piece of wood, had made 3,001 wear the jackass and 1,707 hold the rod up; not to enumerate various more unusual punishments which he contrived on the spur of the occasion. Of the blows with a cane, about 800,000 were for Latin words; and of those with the rod, 76,000 were for texts from the Bible and verses from the singing book. He had about 3,000 expressions to scold with; of which he had found about two-thirds ready-made in his native language, and the rest he had invented himself."

See Barnard, Henry, *German Teachers and Educators,* p. 479.

Religion. The teaching of religion was confessionless, or undenominational, and laid the chief emphasis upon morals. It may be regarded as a transitional step to the secularized instruction of today. Basedow went so far as to suggest teaching the religion of the most numerous body of the people. But he would exempt from attendance upon such instruction, children whose parents objected to this form of religion. Moreover, he insisted that, in the teaching of secular subjects, occasion should not be taken to advance anything respecting the truth or falsity of any religious view.

Textbooks. Basedow emphasized the need of textbooks and of literature at the level of the child's comprehension. As there were no trained teachers, he felt that textbooks should be so ample in materials and so clear in method that the parent, though unskilled in teaching, would not err in instructing children. La Chalotais before him, in his *Essai,* had gone so far as to assert that suitable texts might help mankind to dispense with teachers entirely. Pestalozzi later shared the same point of view. In writing his books, Basedow tried to put in all the knowledge necessary for elementary instruction.

A new literature for children. One of the finest contributions made by the Philanthropinists was the creation of children's literature in German. This was largely due to the extravagant praise which Rousseau had heaped upon *Robinson Crusoe.* J. H. Campe, one of Basedow's chief fellow-workers, wrote *Robinson the Younger.* Later, Wyss produced *Swiss Family Robinson.*[11]

> Basedow's *Elementarwerk* was the basic cause of an entirely new type of pedagogical literature; children's books for instruction and entertainment. The literary market was flooded with an enormous mass of story-books, and magazines, picture books and instructive books for youth in several-volume sets, romances, dramas, histories, geographies and physics books for children and for use in the schools, an industry which in the course of time reached gigantic proportions.

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[11] Heman, F., *Geschichte der neueren Pädagogik,* p. 229. Osterwieck, A. W. Zickfeldt, 1913.

Physical education. The physical aspect of education received more attention than it had ever received in the schools since the days of ancient Greece. Basedow thought that most of the training to be offered in the people's schools should be physical exercises. This accorded with his view that education should be pleasant. Free play in the open air, foot races, wrestling, swimming, riding, hunting, and even fishing formed part of the ordinary activities of the school.

Basedow, like Rousseau, emancipated child life in the higher classes from the bondage of conventionality and artificiality. Ordinarily, pupils wore a simple uniform which in no wise restricted freedom of movement. As Basedow followed Locke and Rousseau in making garments more comfortable, he also accepted the hardening process. His pupils were obliged to fast one day each month, to live in cold rooms, to be out in storms, and to sleep at times on the ground.

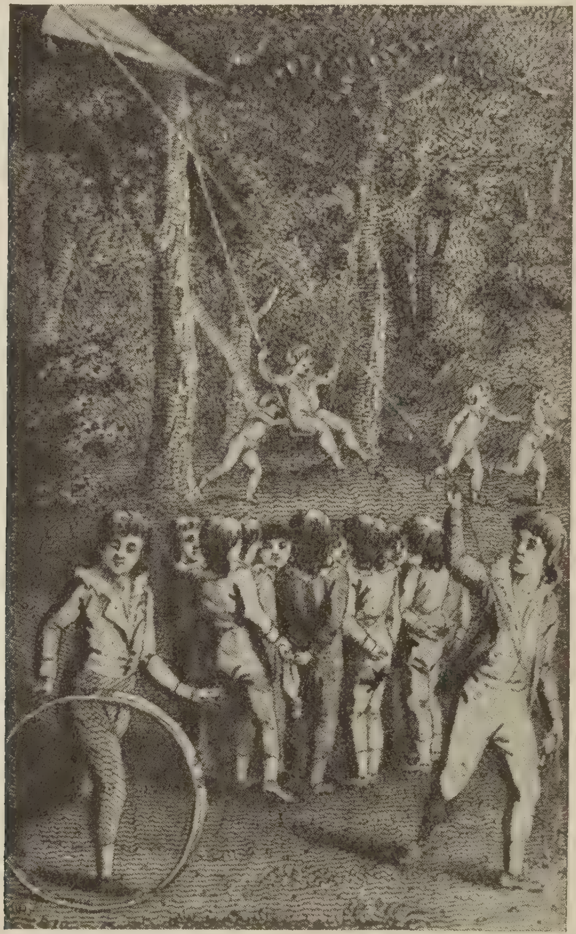
This interest in physical training was more fully developed by Salzmann, Basedow's most progressive associate. He wrote a work on *Gymnastics for Youth,* which was popular in Germany and was translated and widely used in England. In his school at Schnepfenthal, Salzmann trained Gutsmuths, who became the creator of the *Turnen* system of physical training, which has been followed ever since in German schools.

Chief contributions of Basedow's system. The work of Basedow formed a new epoch in German education. The following results sum up its chief contributions:

(1) It mobilized and concentrated the scattered interest in educational reform. At this time a wave of philanthropic interest reached its climax. A large number of men and women of the higher classes of society were eager to uplift the lower order, and they saw in education the most promising means to this end.

(2) Basedow set forth a definite system of reform, and worked out his principles in a concrete program. Followers and imitators of the system sprang up everywhere, and many similar institutions were established in Germany and contiguous countries. Campe established a school near Hamburg. Salzmann, Basedow's closest associate, set up a school at Schnepfenthal, in the Thuringian Forest. He emphasized gardening, agriculture, animal culture, geography, nature

study, and gymnastics. Two of Germany's greatest educators came out of this school: Ritter, the geographer; and Gutsmuths, the father of the German system of gymnastics. The great Pestalozzi, also, was quite definitely influenced by Basedow's efforts and writings.



FROM SALZMANN'S WORK ON PHYSICAL TRAINING, GYMNASTICS FOR YOUTH.

(3) The *Philanthropinum* assisted greatly in making the transition, from a poor system of schools under the dual management of church and state, to the system under the full

control of the state. Basedow favored strongly such a policy. His recommendation of the establishment of a supreme school council was probably the influence which directed the policies of von Zedlitz, the Prussian minister who brought about the changes in the laws which gave the state full control of the schools. He was enthusiastic over the principles and practices of the Philanthropinists.

(4) The most important contributions were those of realistic studies and physical education. Realism was given a position of genuine significance. Basedow corrected the error of Hecker and, for trade training, substituted the higher realistic culture.[12]

> The pedagogical character of the *Real*-school was established by Basedow and his followers. Originally the plan was to provide for the middle classes what would be called nowadays manual training schools in which the scientific principles underlying the various trades and business vocations should have a prominent place. These schools were to be one step removed from the trade schools for the lower classes. But under the influence of the *Philanthropinists* the *Real*-school was transformed into a modern humanistic school and placed in competition with the humanistic *Gymnasium.*

Reasons for the decline of the system. (1) The *Philanthropinum* held on fitfully for some years. Basedow was too erratic, temperamental, and quarrelsome to get along with anyone who had the capacity to run the school successfully. His forced withdrawal ended its usefulness and influence. With the passing of this experimental school, the enthusiasm for the system declined.

(2) Again, one may well surmise, the vulgarity, amounting to obscenity, of some of his object lessons may have alienated many people of refined taste.

(3) The looseness of the system favored the growth of charlatanism in many institutions which pretended to copy his methods. His soft pedagogy alienated men of exact and laborious ideals of scholarship.

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[12] Russell, J. E., *German Higher Schools,* pp. 65–66. New York, Longmans, Green and Co., 1899.

(4) The leaders of the new Humanism were bitterly opposed to the *Philanthropinum* because of its utilitarianism and neglect of Greek. Moreover, Basedow's insincere attention to Latin and his blundering scholarship in this language offended many.

3. Baron von Rochow

Von Rochow and rural education. What Basedow did for the reform of education for the upper classes and the people of the towns, von Rochow attempted for the peasant class. He was a country nobleman with a large estate, a man with a generous and compassionate heart. From personal experience he learned to know the extreme stupidity, superstition, stubbornness, and suspicious nature of the peasants. They were afraid even of the most benevolent efforts to assist them in their misery and deplorable condition of poverty and disease. Von Rochow decided that the trouble was due, not to a lack of native intelligence, but to the fact that they had not received any education.

Confident that the peasants could be elevated to a higher condition of life, he threw himself with enthusiasm into the improvement of schools. In 1772 he produced a work entitled *School Book for Children of Country People and for the Use of Village Schools.* Its object was to elevate the intelligence of teachers and to give them practical skill. This work became popular, and made a profound impression on Baron von Zedlitz, the Prussian minister of state and at the time the most outstanding official in the Prussian bureaucracy. After this time von Zedlitz undertook no reform of the Prussian schools without first consulting von Rochow.

Von Rochow now began to improve the schools on his estate. He was filled with a missionary zeal and required that the teachers should share the same spirit. To this end he established a teachers' seminary. His second publication was a reader which bore the name *Children's Friend.* Von Rochow shared many of the principles of Basedow. He believed especially in state education, of which he said: [13]

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[13] Barnard, Henry, *op. cit.,* p. 502.

> My principle is: children belong to the state,—the State must provide for their education, and that they learn reading, writing, ciphering, and how to think correctly. The proper school period can not be replaced in after life.

He translated, into German, Mirabeau's *Discourse on National Education.* Among his other writings were: *Schools for the Poor; Abolition of Public Beggary;* and *Formation of National Character by Popular Schools.* Through these works and his schools, von Rochow exerted a greater influence than did any other man of his time on the education of the peasantry of Germany.

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CHAPTER XV

American Education in the Eighteenth and Early Nineteenth Centuries

1. New Developments in America

Eighteenth century a period of change. At no time in the history of the western world have educational theory and practice received a more thorough renovation than in the 18th century. In fact, in no part of the world was activity in educational reconstruction more intense than in the American colonies. The writings of European theorists were eagerly read, new institutions sprang up, noted American leaders formulated distinctive theories of education, and the beginnings of a system of public education emerged. In America, as well as in Europe, a new spirit was beginning to animate all institutions.

1. The Social and Political Revolution

Revolutionary influences. Many Americans habitually think of the 1776 Revolution too narrowly. They regard it as merely a political and governmental upheaval confined to the Thirteen Colonies. Many have failed to understand that what transpired on this continent was but a single, though very significant, example of a political transmutation which was likewise effective in western Europe, where it gave birth to the modern conception of the state. Moreover, the political was but a side product of the deeper and more universal change in the cultural and social life and ideals of the time. In large measure, the leaders of American life and thought had come under the spell of the revolutionary philosophy of the 18th-century Enlightenment, and were no longer tolerant of the restraint imposed by British conservatism, either in government or in thought and social living.

Background of the Revolution. The events of outstanding importance in American history of the 18th century were, of course, the separation of the colonies from Great Britain, and the establishment of the Government of the United States. The War of Independence lasted but seven years; yet the revolutionary movement began before the middle of the century. This movement arose in the growing conviction of Americans that the interests of this country and those of Great Britain were in sharp conflict, and that American conditions demanded the creation of social and political institutions quite different from those of Europe.

The population of the British colonies in North America grew rapidly between 1700 and 1775; and there were in the colonies at the outbreak of the Revolution about two and a half million people of European extraction. Boston, New York, Philadelphia, and Charleston had become important commercial centers. The plantation system had greatly expanded in the South; and in New England, farming, home manufacturing, lumbering, fishing, and commerce flourished. While there was much poverty, numerous financiers, merchants, and industrialists in the larger cities had amassed considerable wealth, as had also the larger planters in the South. European observers agreed that the lot of the American laborer at the time was happier than that of the laborer in Europe. Leadership was passing, by imperceptible changes, from the clergymen to lawyers, business men, and planters.

The shift in leadership was reflected in government and in literature and scholarship. Religious toleration was an accomplished fact in all of the colonies early in the 18th century; and by 1800, religious equality had been achieved in most of the states, and there were unmistakable signs that its coming could not be long delayed in the rest of them. Scholars in increasing numbers were devoting their efforts to science, politics, and economics, and to the applications of these bodies of knowledge to commerce, agriculture, industry, and government. Abstract discussions of theological and metaphysical subtleties did not hold for the 18th century the interest that they had for the 17th.

Although the growth of population was accompanied by important effects upon the Atlantic seaboard, its effect in the interior was still more significant. Hunters and trappers pushed into the back country, and were soon followed by farmers and planters. The mountains were penetrated, and settlements formed in western Pennsylvania, western Virginia, Kentucky, Tennessee, and what is now Vermont.

Pioneer life was hard, but it afforded an opportunity for the vigorous and self-reliant to make their way in the world. Leadership on the frontier depended almost solely upon the strength, hardiness, and resourcefulness of the individual. Men rose to wealth and influence, or sank to the lowest level, because of their own personal qualities; hereditary position and social connections counted for little. Unfortunately, culture and gentility were likewise too frequently unappreciated. The hard life of the frontier stripped away much that was useless and that hindered social development. It also stripped away much that is indispensable for rich and free human life. The frontiersman prized neither critical scholarship nor the fine and liberal arts, and all too frequently despised the ordinary amenities of social life. Pioneer life developed initiative, self-reliance, independence, and an intense love of freedom; hence, this back-country section played an important role in the American Revolution and in the subsequent development of American democracy.

It is a striking fact that the popular evangelical churches—the Baptist, the Presbyterian, and later the Methodist—were aligned with liberal philosophers in the struggle for separation from Great Britain and for popular government. The Revolution was scarcely achieved, however, when the two groups found themselves involved in a long and bitter conflict over the control of education.

The later 18th century is especially significant in educational history because in it Americans asserted their cultural independence. The first American novel was written, American scientists achieved standing among European scholars, and theorists began to publish plans for a system of education distinctively American.

II. Schools in the Early Eighteenth Century

Dame schools. The *dame* school, which was transplanted to the colonies in earliest times, continued to flourish. It was the primary school in the towns of New England, and prepared pupils to enter the reading and writing or the grammar schools. During the 18th century some towns supported public dame schools, but the private ones held sway until the coming of the primary school in the early years of the 19th century.

Public and semi-public schools. Throughout the early 18th century and down to the Revolution, the New England town schools and the parish schools in Virginia continued to function after a fashion. While such schools were supported principally by tuition fees, they received some public aid, and were under a measure of public control.

Private schools. Parents of wealth and position employed private teachers for their children and for others closely related to them. Parents less well-to-do would, when no public school was available, form local societies for the support of schools. In the larger cities, private schools, many of which were of secondary grade, were fairly numerous. Such schools were owned and conducted by schoolmasters and schoolmistresses, and were supported by tuition fees. Some masters of private schools added to their incomes by the sale of books and other merchandise. Of special interest were the *mathematical* and *English* schools, planned to meet the needs of boys and young men who looked forward to careers as ships' officers, surveyors, clerks, or business men, or to positions in the civil service of the government. For the benefit of apprentices and other employed youths, some of these schools conducted classes after working hours. In these schools, geometry, algebra, trigonometry, English grammar, modern languages, surveying, navigation, bookkeeping, dialing, and gauging were taught. In similar schools, taught in many cases by the master of the school for boys or by his wife, girls received instruction in English grammar, modern languages, bookkeeping, and needlework.

III. The Charity School Movement in America

The Society for the Propagation of the Gospel in Foreign Parts, usually known as the S. P. G., was active in supporting elementary schools and missions in the North American colonies. Its first school in America was one established in the

City of New York in 1704; and from the establishment of this school until the work of the Society in this country was terminated by the American Revolution, about two-thirds of the funds expended by the S. P. G. were used for its work here. Negro slaves and Indians were the special objects of the Society's solicitude. It was most active in New England, New York, New Jersey, Pennsylvania, and South Carolina; but its work was not confined to those colonies. It was a policy of the S. P. G. to admit poor children to its schools without charge, and it is estimated that from a fourth to a half of the pupils paid no tuition.

The work of the S. P. G. in Pennsylvania began late, but is of especial interest. In this colony a great number of Germans had settled. About a third of those people belonged to Quietist groups, such as the Mennonites, Moravians, and Dunkards. The attachment of the Quietists to their native language, religion, and customs, and their antiwar sentiments made them objects of unusual concern to the political leaders. Led by Benjamin Franklin; William Smith, provost of the College of Philadelphia; and Michael Schlatter, a German clergyman of the Reformed Church, influential Pennsylvanians invited the S. P. G. to establish charity schools in the colony. An avowed purpose of the movement was to promote the unity of the colony by teaching the Germans to speak and read English and to mingle freely with their neighbors. These efforts were resisted by the Quietist groups, who clung with great tenacity to their language and religion. The Society did, however, establish a real system of charity schools in Pennsylvania—a system which was maintained until just before the outbreak of the Revolution. Taken all together, the Society's work represented an important effort to provide free elementary education in America. Through its efforts, the first Lutheran parish schools were established and these led, in later years, to important developments.

IV. The Academy Movement

The Academy and College of Philadelphia. There was in the 18th century very general dissatisfaction with the existing colleges and with the Latin grammar schools. These institutions were not planned with a view to the needs of youths preparing for careers as ships' officers, merchants, surveyors, or manufacturers. They were criticized, too, because they included in their courses of study so little of the new sciences, which held an increasing place in the interests of educated men. Non-conformist academies in England had adapted themselves to the changed situation in the world of scholarship and of affairs, and were offering training in keeping with the times. In the colonies, private schools were offering, before the middle of the century, training adapted to fit boys to enter upon business and industrial pursuits.

In 1749, Benjamin Franklin published a pamphlet entitled *Proposals Relating to the Education of Youth in Pennsylvania,* in which he advocated establishing in Philadelphia an academy in which youths might "learn those things that are likely to be most useful and most ornamental, regard being had to the several professions for which they are intended." The academy was to include three schools: a mathematical school, an English school, and a classical school. Special attention was to be devoted to the English part of education, which Franklin thought should be the basis of the rest. The academy opened in 1751, was chartered in 1753, and received a new charter as a college in 1755. From the beginning it was an innovator among American colleges, and was notable as the first American academy—a type of institution that was to dominate American secondary education for almost a century. Distinctive features of the institution established by Franklin were the attention paid to the teaching of the English language and literature, and oratory; the introduction of scientific courses; and the non-sectarian control of the institution. The first medical school opened in the United States was established in 1765 in connection with this college. The charter of the institution was canceled in 1779, because of a suspicion of Tory interest in the college; but it was restored in 1789, and the institution was reorganized in 1791 as the University of Pennsylvania. After the reorganization the medical school was continued, and a law school opened. The institution has been governed from the first by a self-perpetuating board of trustees.

The American academy movement. The second half of the 18th century witnessed the rapid expansion of academies in America. These institutions were destined to supplant the

Latin schools as the dominant secondary schools, and to affect secondary and higher education in America in many ways. The academy provided for its pupils a liberal education of a new type, and a foundation for vocations which the colonial Latin school and the college did not attempt to give. Academies were founded by wealthy philanthropists who provided for their building and support, by churches or groups of churches, by companies organized for the purpose, and by enterprising individuals. These institutions were for the most part governed by boards of trustees, either self-perpetuating or elected by the church or company that had established the school.

Famous early New England academies were: Dummer's, at Byfield, Massachusetts, opened in 1761; Phillips Academy, at Andover, Massachusetts, opened in 1778; and Phillips Academy, at Exeter, New Hampshire, opened five years later. After the close of the War for Independence, academies were founded in all of the states, and numbered certainly more than one hundred by 1800. There were separate academies for boys and for girls; but even in the 18th century some coeducational academies were to be found.

The academies were, for the most part, quasi-public in character. Largely supported by tuition charges, many of them profited by public subscriptions and by state grants. For example, before 1797 seven academies in Massachusetts had received grants of land from the Legislature of Massachusetts; and in that year a bill was passed which provided for a grant of land to any academy in the state meeting specified conditions. New York laws of 1784 and 1787 provided for the oversight of academies by the "Board of Regents of the University of the State of New York." From 1790 until almost the middle of the 19th century, these schools, though charging tuition and under control of private boards, held an important place in the educational systems of the various states.

The academies taught Latin and Greek, the principal subjects of the Latin school, but were not slow in introducing new subjects. English grammar and literature, oratory, arithmetic, algebra, geometry, trigonometry, surveying, geography, history, astronomy, "natural philosophy" (elementary physics and chemistry), and practical courses in what are now called psychology, ethics, and evidences of Christianity were studied in most of the leading academies. The polite accomplishments had a large place in the courses planned for girls; music, needlework, dancing, declamation, painting, and French were the leading studies of this type. Many academies organized parallel classical courses and English courses. Great freedom of choice among the courses offered was allowed to their pupils.

Academies differed greatly in standards. Some were no more than poor grammar schools; others prepared pupils for the junior year at Yale and Princeton. During the 19th century they came to be the chief college preparatory institutions. However, until they were displaced by the public high school, the preparation of prospective college students for higher training was never their leading function. They were the popular preprofessional and finishing schools of the 19th century. Many boys went at once from the academy to the study of law, medicine, and even of divinity. Others, having worked through the higher arithmetic and perhaps a little of higher mathematics and surveying, and having completed the English grammar and read some of the English classics, felt themselves prepared to take up "the real business of living."

The academies owed their popularity to a variety of causes. They offered a course of study adapted to the intellectual and practical interests of the middle class of their day—interests which the Latin schools and colleges did not serve. Supported, as they were, principally by tuition fees, they were of considerable financial benefit to the new communities in which they were located. Appealing for local patronage, they were of necessity highly responsive to the will of the public they served.

By the fourth decade of the 19th century there were thousands of academies in the United States. Quite a number of early academies evolved into colleges: notably, Liberty Hall became Washington College, now Washington and Lee University; Hamilton Oneida Academy became Hamilton College; Hampden-Sidney Academy became Hampden-Sidney College; and Davidson Academy became the University of Nashville. With the rise of the public high school, the academy ceased to be the leading American secondary school. The high school took its place as the "college of the people," and the academies passed out of existence, though a few survived as private preparatory schools.

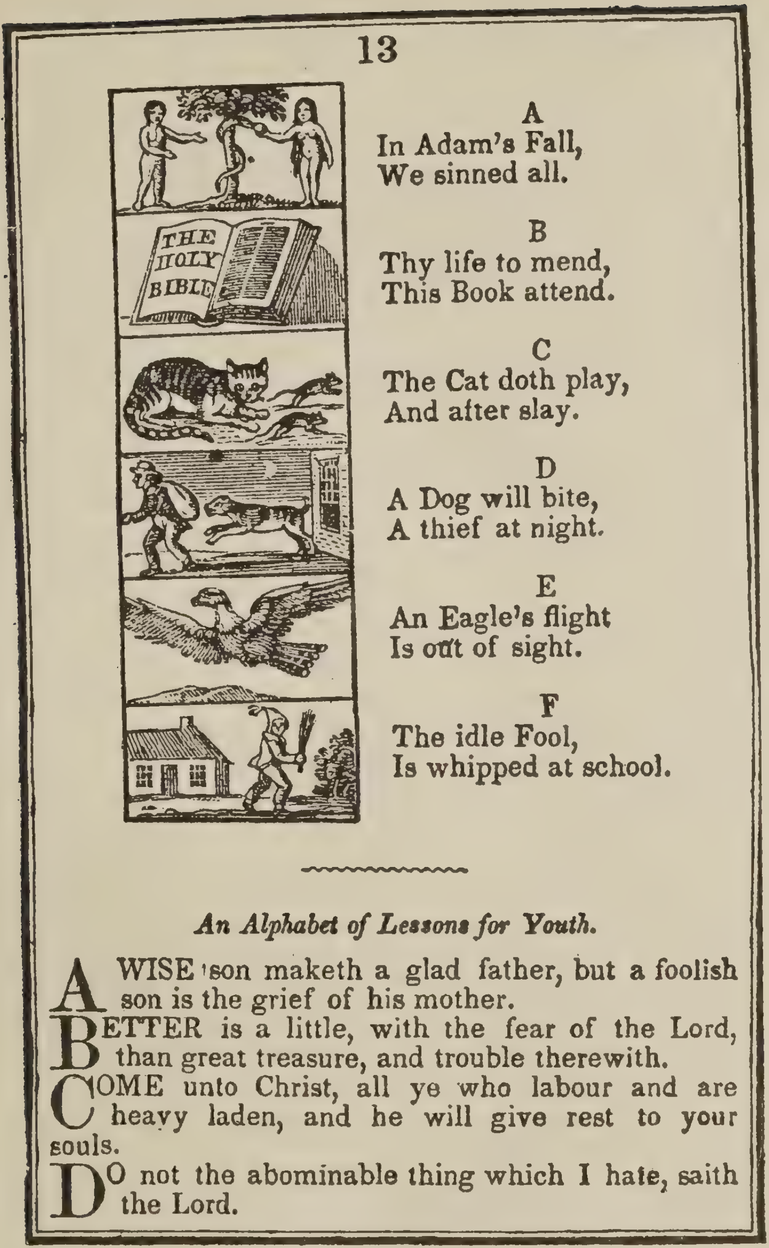
V. SCHOOLBOOKS

By far the most famous American textbook of the early 18th century was the *New England Primer,* which was an adaptation of the English Calvinistic primer *The Protestant Tutor.* The *New England Primer,* first printed between 1685 and 1690, quickly won immense popularity—a popularity which it retained throughout the 18th century. The *Primer* is a little book, having but eighty-eight pages, and being only three and a half by five inches in size. It contains the letters in roman and italic types and in script; illustrations, each of which is accompanied by a rhymed couplet; and verses taken from the Bible, each of which begins with a successive letter of the alphabet, as:

> Remember thy Creator in the Days of thy Youth.
> Salvation belongeth unto the Lord.
> Trust in God at all Times ye people,
>   pour out your Hearts before Him.

There are included also in the *Primer* two catechisms, one of which is *The Westminster Shorter Catechism,* the most widely used of all English epitomes of Calvinistic doctrine. Two pages of "Easy Syllables for Children," a list of words to be spelled; and a great number of verses, poems, and selections from the Scriptures complete the contents of the book.

Cocker's *Arithmetic* and Hodder's *Arithmetic* were in early use. In 1729, Isaac Greenwood, Hollis professor of mathematics at Harvard, brought out his *Arithmetic,* the first book on the subject to be written by an American. English grammars were used: Franklin speaks of Greenwood's and Brightland's books on the subject. *Lily's Latin Grammar* was popular until the close of the 18th century; and in New England, Cheever's *Accidence* was popular. Cicero's *Orations* were read in schools more than any other selections from Latin literature, although Horace, Caesar, and Livy were also widely read. In the Greek, Xenophon and Homer were read, but the most popular Greek text was the New Testament. Hebrew was usually confined to the college.



13

A
In Adam's Fall,
We sinned all.

B
Thy life to mend,
This Book attend.

C
The Cat doth play,
And after slay.

D
A Dog will bite,
A thief at night.

E
An Eagle's flight
Is out of sight.

F
The idle Fool,
Is whipped at school.

THE HOLY BIBLE

An Alphabet of Lessons for Youth.

A WISE son maketh a glad father, but a foolish son is the grief of his mother.

BETTER is a little, with the fear of the Lord, than great treasure, and trouble therewith.

COME unto Christ, all ye who labour and are heavy laden, and he will give rest to your souls.

DO not the abominable thing which I hate, saith the Lord.

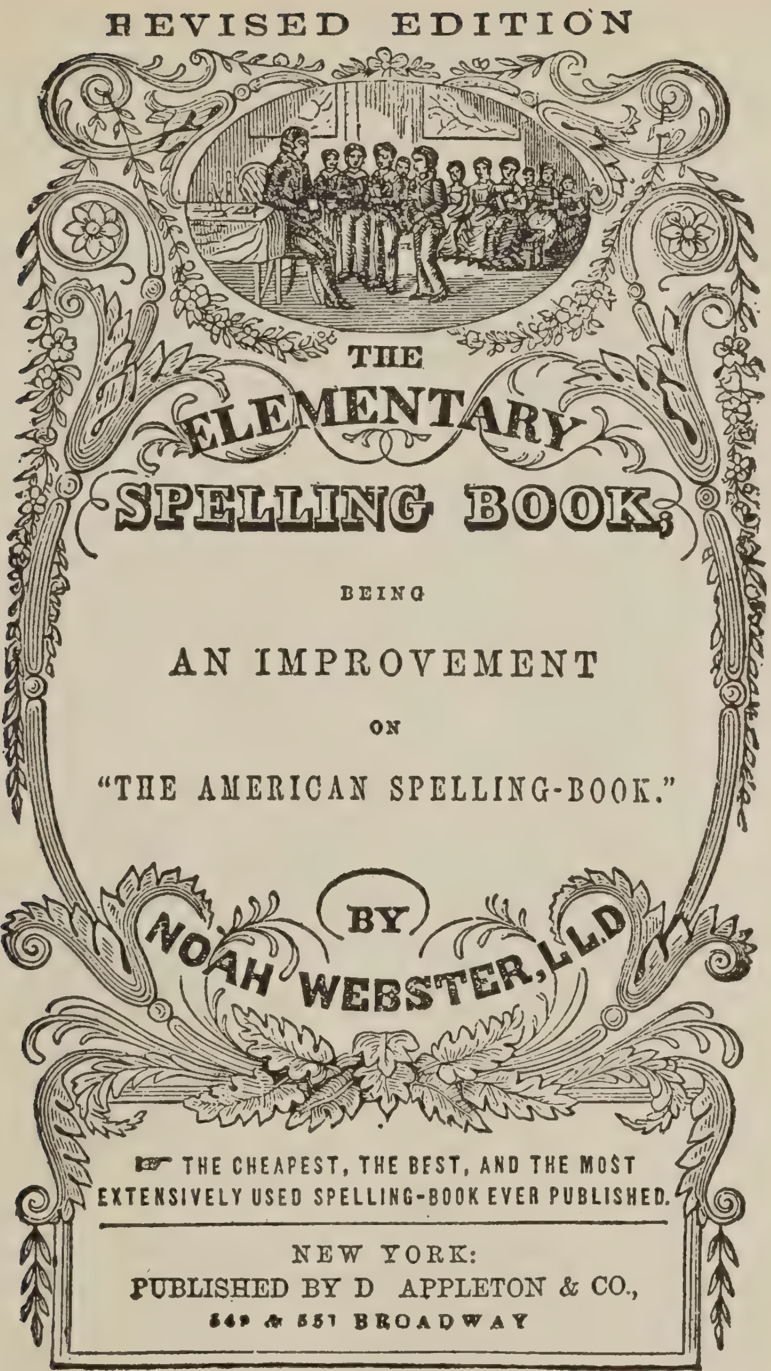
New England Primer, Page 13.

The intense patriotism of the Revolution, along with progress in scholarship in the 18th century, contributed to the production of a number of new textbooks that long held commanding places in schools. Most famous of all 18th-century American schoolbooks was Webster's *Speller* (1783), which formed the first part of his *Grammatical Institute of the English Language.* The second and third parts were a grammar and a reader, respectively, but neither approached the popularity of his famous "Blue Back." Webster followed Dilworth rather closely, but his book has less religious content than its English predecessor; and Webster sincerely tried to adapt his book to the American situation.

Jediah Morse produced, late in the 18th century and early in the 19th, a series of geographies. His *American Universal Geography* much resembles two English works, the geographies of Salmon and Guthrie; it enjoyed an enormous popularity, especially in the academies. English grammar became one of the most popular subjects as the 18th century drew to a close. By far the most common grammar text was that of an American, Lindley Murray, published in England in 1795. Murray's grammar in full and in brief form ran through scores of printings, of from ten to twelve thousand copies for each edition. Caleb Bingham's *Young Ladies' Accidence* (1785) was another popular grammar. Arithmetic likewise enjoyed great popularity in the academies and in the rural schools. The most widely used American arithmetic was the large and difficult text of Nicholas Pike. This book contained a short introduction to trigonometry and surveying. Dilworth's *Schoolmaster's Assistant* also enjoyed great vogue in America. Caleb Bingham early brought out an exceedingly popular reader, *The American Preceptor and Columbian Orator.*

2. The Beginning of Educational Theory in America

Principles of the Revolution. The leaders of the American Revolution formed a definite philosophy of education in connection with their policies of government. It was the destiny of America, they felt, to separate from the Old World, and to establish a government on new principles. These principles were: Human life is capable of the greatest improvement;



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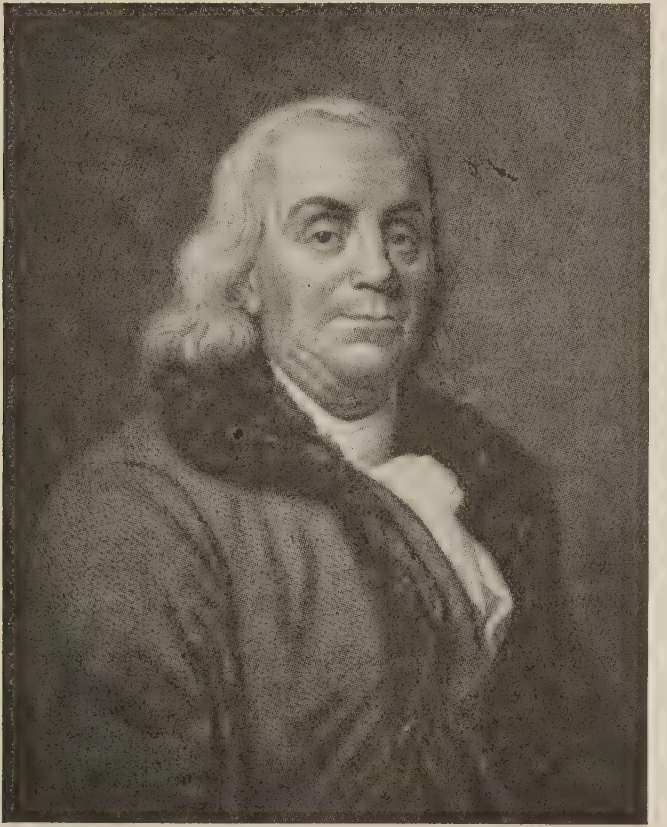
governments exist to effect this improvement, by securing people in the enjoyment of their natural rights; and, finally, the practices of governments should conform to natural law. Chief among man's natural rights were, they claimed, security of life, person, and property; the privilege of pursuing one's personal happiness; and the exercise of liberty or self-direction.

The leaders agreed that education is the principal means by which governments can procure the welfare of the people. But they held very diverse views respecting the details of an educational system. They fall into two groups, with regard to the fundamental principles of educational organization and practice. The one group believed that government and its educational system should be highly centralized, and that people should be prepared for citizenship by being carefully taught in a particular system of ideas. The other group, whose view prevailed, held that that government governs best which governs least; that individuals and localities should manage their own affairs as far as possible; and that the central government, instead of indoctrinating its citizens with a system of ideas, should make it possible for them to cultivate their minds, and should encourage them to think and speak freely on matters of government.

Benjamin Franklin. Author, publisher, scientist, inventor, and statesman, Benjamin Franklin (1706–1790) was a leader in the movement to establish the cultural independence of America and a system of education adapted to prevailing conditions. He received but little formal schooling. However, he trained himself to write a correct and pleasing style, won international recognition as a scientist, and acquired remarkable mastery of languages. By early middle age, when he had accumulated a considerable fortune from printing, he virtually abandoned all private business in order to devote himself to public service. His part in the winning of Independence and the establishment of the Federal Government is well known.

A man of wide reading, Franklin was especially influenced by John Locke, Daniel Defoe, and by the European scientists and economists who were his contemporaries. A man of great public spirit, he was the moving power in the founding of the Junto, a society for mutual self-help; the American

Philosophical Society; the Philadelphia Public Library; the Academy and College of Philadelphia, which became the University of Pennsylvania; and the Pennsylvania Hospital. He was an opponent of sectarianism and also of ecclesiastical domination of public affairs.

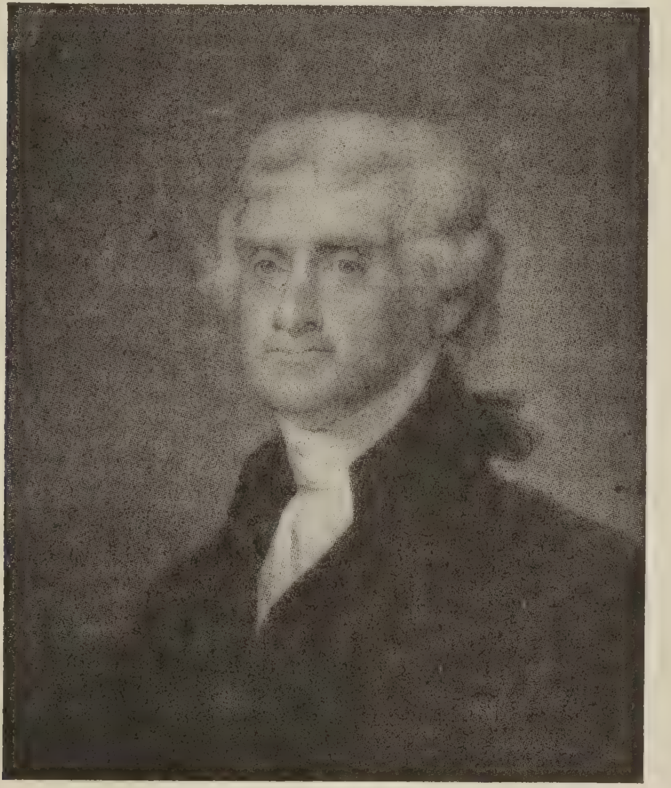


Benjamin Franklin.

Throughout his career Franklin wrote much on education. His views reflect his self-reliance, public spirit, and practical bent, his preoccupation with business and affairs, his devotion to America, and his scientific and literary interests. As he was, for the most part, self-trained, Franklin was a champion of self-education. As he had won success by industry, resourcefulness, and thrift, he believed that studies should be pursued for their utility. The education which he advocated was, however, of no narrow type. He proposed that boys study foreign languages, mathematics, English composition and literature, public speaking, politics, the natural sciences, morals, and religion; and that special attention be paid to the practical applications of knowledge. He proposed to base education on the study of the English language and literature. German children in Pennsylvania should, he thought, be taught in English, as a means of unifying the language and government of the colony. As president of the Abolition Society, he drew up "A Plan for Improving the Condition of Poor Blacks." This plan included a scheme for instructing free negroes in morals, religion, and handicrafts.

Franklin was a moving spirit in the founding of two great American institutions: the American Philosophical Society, and the academy and college which became the University of Pennsylvania. Reference has been made to the importance of the last of these institutions. The American Philosophical Society was first suggested in a paper, *A Proposal for Promoting Useful Knowledge Among the British Plantations in North America,* which appeared in 1743. Franklin had in view a society composed of leading persons, from the British colonies in North America and from Europe, who were to collect all sorts of useful information and to transmit it to the secretary of the society. Each member was to receive quarterly abstracts of everything valuable thus reported. The society, founded in 1779, soon had more than six hundred members, among them George Washington, Thomas Jefferson, and other men of great prominence.

Thomas Jefferson. Thomas Jefferson (1743–1826) probably did more than any other one person to determine the democratic character of the Government of the United States. Born near the site of the present city of Charlottesville, Virginia, when it was at the edge of the wilderness, Jefferson was more influenced by the frontier and the backwoods than any other leader of the Revolution. He was, however, well educated, having completed his early studies in the College of William and Mary and in the law offices of George Wythe. All of his life he used with facility Latin, Greek, modern European languages, and calculus. In his thinking, he was influenced by American pioneer life, British constitutional law, the writings of Locke and Sidney, the philosophy of Shaftesbury and Bolingbroke, natural science, and the writings of French economists. He was strongly opposed to the views of Montesquieu and Rousseau, but attached to those of the Physiocrats.



THOMAS JEFFERSON.

Jefferson influenced in various ways the development of public education in the United States. He was the founder of the University of Virginia; he urged and worked for the establishment in Virginia of a system of popular schools supported and controlled by the state and local governments. The great motives which dominated his life were: faith in the ability and goodness of the ordinary man; belief in the possibility of improvement in human life by reform in law, government, and education; and devotion, religious in its intensity, to the cause of human freedom.

Most of Jefferson's life was spent in public service. Shortly after completing his law studies, he became a member of the Virginia House of Burgesses, where he initiated legislation that had for its object the mitigation of some of the evils of slavery. He early won recognition as a spokesman of American interests in the dispute between the colonists and the mother country. He wrote the Declaration of Independence; had a leading part in revising the legal code of Virginia; served as Governor of Virginia, Minister to France, Secretary of State under Washington, Vice-President of the United States, and third President of the United States. He retired to private life in 1809, and devoted the best efforts of the remainder of his days to the founding of the University of Virginia.

As a member of a committee to revise the legal code of Virginia, Jefferson drew up a group of bills which indirectly affected the course of education. He was the author of a bill separating church and state in Virginia. He drew up three bills for the establishment of a state system of public schools, which was to include elementary schools in every locality, secondary schools distributed in every section, and a state university. The elementary schools were to be locally controlled and supported, and were to be open without charge to all children. The secondary schools and the university were to be built out of state funds, and principally supported by tuition fees. A system of state scholarships was intended to provide for the secondary and higher education of poor boys of exceptional talent. A section of one of these bills providing for the establishment of elementary schools was passed in 1796–1797, but the time of establishing schools in each county was left to the court of the county. No county set up schools under the law.

Jefferson asserted repeatedly that popular education is the business of the state, and vital to its welfare. He wrote to Washington, January 4, 1786: [1]

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[1] Randolph, T. J. (Editor), *Memoirs, Correspondence, and Miscellanies from the Papers of Thomas Jefferson.* Charlottesville, F. Carr and Company 1829.

> It is an axiom in my mind that our liberties can never be safe but in the hands of the people themselves, and that, too, of the people with a certain degree of instruction.

He worked, also, for the establishment of a state university, in which all useful sciences were to be taught freely, and that on the very highest levels. No other American of his day understood so clearly the importance of freedom of study and teaching, as well as the significance of high standards in art and scholarship, for national health and human welfare.

General interest in educational reform. The American Philosophical Society early offered a prize for "the best system of liberal education and literary instruction adapted to the genius of the Government of the United States." A great number of plans were submitted to the society, those of Samuel Knox and of Samuel Harrison Smith receiving prizes. Both advocated systems of public schools, crowned by a national university, which would afford to all children opportunities for intellectual culture. George Washington was much attracted to the idea of a national university, in which young men from all parts of America could come in contact and so effect the unity of the country. For this object he donated the shares in the Potomac Company, granted to him by the Legislature of Virginia, and even chose a site for the "National University" in the capital city; but Congress refused to charter the institution. Rush, Barlow, and a host of other leaders agitated the idea of a great national university. But colonial developments had created a situation favorable to local control of lower schools, and to private and state control of colleges and universities. The tendency toward decentralization and local autonomy was to predominate in American education.

3. The Federal Government and Education

The Federal Constitution and education. Although the Constitution of the United States contains no direct reference to schools, two amendments, the First and the Tenth, are of significance in connection with education. The First Amendment declares: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech or of the press."

This article necessitated the secularization of public education, and, under it, freedom of teaching and of research have been fostered. The Tenth Amendment states: "The powers not delegated to the United States by the Constitution, or prohibited by it to the States, are reserved to the States respectively, or to the people." Fresh from a struggle to establish the rights of individuals against the encroachments of a powerful central government conducted in the interests of a privileged class, the framers of this amendment wished to safeguard local autonomy and individual liberty. From the establishment of the American Government until the present time, education has been the prerogative of the states, and principally supported and controlled by state and local governments and by private agencies.

Congress formulates a land policy. Even before the close of the Revolutionary War, Americans displayed great interest in the rich lands that lay between the Appalachians and the Mississippi. Some individuals schemed to make those lands the foundations of private fortunes; others laid plans to use the income from their sale for the support of state and local governments, especially for appropriations for schools and internal improvements. Between 1781 and 1786, the seven states which claimed lands west of the Appalachians had the understanding that the settlement of the region was to be encouraged, that it was to be divided into states, and that the states were later to be admitted to the Union.

A plan for the utilization of the lands was proposed in 1783; it contained the provision that a part of the revenues derived from their sale was to be used in establishing schools. In 1785, Congress passed an ordinance making possible the sale of land in the territory. This law also provided for surveys of the lands into townships, each six miles square; and of the townships into lots, each a mile square—the lots to be numbered consecutively from one to thirty-six. Lot number sixteen in each township was to be reserved, to provide an income for the school of the township.

In 1787, an immense area was sold to a land company. An ordinance adopted for the government of the region forbade slavery in the territory, and declared: "Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged." Later in that year, an ordinance regulating the utilization of land was adopted. Lot sixteen in each township was given for the school of the township; and two entire townships were set apart for the endowment of a university. The *Northwest Ordinance,* as this law was called, established, as a policy of the Federal Government, the practice of granting lands for the support of schools and universities. Much of the revenue received from lands before 1850 was lost; but the funds from these lands did, nevertheless, stimulate the establishment of schools in the new states, and states admitted after 1849 have profited greatly from this land policy.

4. State Governments Lay the Foundations of School Systems

Educational provisions in state constitutions. In 1800 there were sixteen states in the Union. Eight of these states had adopted constitutions containing references to education, which indicate that their framers recognized education as an activity to be fostered by the state. An article of the Constitution of Pennsylvania, adopted in 1776, directed the legislature of the state to "establish a school or schools . . . in each county of the state." The public was to pay to the teachers "such salaries . . . as may enable them to instruct youth at low prices." The constitution further directed: "All useful learning shall be duly encouraged and promoted in one or more universities." Pennsylvania adopted in 1790 a new constitution, which directed the legislature to provide, by appropriate legislation, for the free education of the poor, and to see that "all the arts and sciences [were] promoted in one or more seminaries of learning."

Articles relating to education are especially liberal in other state constitutions—notably, those of North Carolina (1776), Georgia (1777 and 1798), Massachusetts (1780), New Hampshire (1784), and Vermont (1793). Interest in founding systems of public schools was by no means confined to those states the constitutions of which refer to the subject. The Constitution of New York and that of Connecticut, until well into the 19th century, were silent on the subject of schools; but these were among the earliest and most enterprising states in pioneering for education.

Public education in Massachusetts. The Constitution of Massachusetts, adopted in 1780, confirmed Harvard in its ancient powers, rights, and privileges; confirmed the corporation of the college in the control of its properties, for the purposes for which they had been given or granted; and declared the governor, lieutenant-governor, council, and senate of the state, with six ministers of the Congregational Church, the overseers of the college. The constitution declared it the duty of the legislature to "cherish the interests of literature and the sciences, . . . especially in the University of Cambridge, public schools, and grammar schools in the towns." The legislature was also enjoined to encourage private societies devoted to religious, humanitarian, and educational work.

In 1789, Massachusetts revised its school law. This law legalized the *district* system, which had gradually developed from the town system of colonial days. The law required an elementary school in towns of fifty or more families, and grammar schools in towns having one hundred and fifty or more families. Teachers were to be college graduates or, if not graduates, they were to be certificated by ministers of the Congregational Church. Only citizens of the United States were allowed to teach in town schools. Fines were to be levied against towns failing to provide schools. Academies were chartered, and lands granted to them by the legislature.

In 1797, the legislature enacted a law which gave to the academy a recognized place in the public school system. All academies meeting certain standards stipulated in the law were to receive from the state an endowment of half a township of land. To receive this grant, an academy was required to have a permanent endowment of at least three thousand dollars.

New York lays the foundation of a state system. Although the successive constitutions of New York, until that of 1894, contain no mention of public education, the state has, from the Revolution to the present, pursued a most enlightened policy in promoting private educational agencies, and in the support and control of public education. Its schools, in every period of its history, have been among the best in the United States.

In 1784, Governor George Clinton launched the state educational program. In this same year the legislature ordered that unappropriated lands in the state be surveyed, and six hundred and ninety acres in each township be reserved for the support of schools. In that year, too, an act was passed establishing a board, called the *Board of Regents of the University of the State of New York,* which was to promote and oversee secondary and higher education in the state. A feature of this bill was the change of name of King's College—the work of which had for some time been suspended—to Columbia College. After three years this act was supplanted by legislation which gave Columbia a self-perpetuating board of trustees, and which established a new Board of Regents, with powers and duties similar to those of the earlier board. This, the oldest state board of education in the United States, has had a continuous existence to the present time. The Regents, almost at once, chartered two academies; and other academies were chartered before the close of the century. In 1790, the Regents were authorized to expend for schools funds received from the sale of certain state lands. This authorization marks the beginning of a state fund for education in New York.

The act creating the Board of Regents had given it power to promote secondary and higher education only, but the board early urged upon the public the importance of common schools. In 1795, the legislature passed an act appropriating twenty thousand pounds a year, for five years, from the state treasury, to be distributed to common schools in the state. This act, moreover, set up machinery for the distribution of the state fund. Schools were to be established in districts. The English language and grammar, arithmetic, and "such other branches of knowledge as are most useful and necessary to a complete education," were to be taught. Funds were to be distributed to the counties, and then by the counties to the towns. Within the towns, funds were distributed to districts on the basis of the number of days in each year that a school was maintained. Two school commissioners and district trustees selected and approved teachers, and exercised oversight of the schools. It is of interest that the supervision of schools had passed from the clergy, as such, though many ministers served as school commissioners and trustees.

For many years to come, efforts were made to have the schools supervised and teachers examined and certified by trustees or committeemen with little or no training for teaching or experience in educational work. This was most unsatisfactory, and later these important duties gradually came to be entrusted to professionally trained and experienced officials, who served as secretaries or executive officers of nonprofessional boards. By 1800 there were in New York 1,350 public schools. The purpose for which the 1795 act had been passed, the general diffusion of the elements of an education, was rapidly being attained. The act met, however, strong opposition, and when it expired, in 1800, it was not renewed.

Conclusion. The period of the American Revolution was marked by great enthusiasm for popular instruction, for the extension of human knowledge, and for changes in courses of study that would render them more useful. The War for Independence interrupted developments that were proceeding steadily, if somewhat slowly, and seriously disrupted the work of schools and colleges. The destruction incident to the war, the breaking of ties with Europe, and the narrow provincialism engendered by the Revolution resulted in a loss of standards in schools and colleges that was long criticized.

The period witnessed, however, exceedingly significant, educational achievements. Church and state were separated. The academy and the state university were established as parts of the American educational system. A real effort was made to throw off outworn practices in schools and colleges, and to make these institutions more effective agencies for promoting human welfare. Administrative machinery was transformed; schools were made responsive to the will and needs of the people; and the system of support and control of education that has since been developed in this country had its beginning. Connecticut and New York and the United States Congress laid plans for promoting schools from revenues derived from the sale of public land. Everywhere was an atmosphere of faith in the new government, and in education as one of its most effective agencies. Plans took shape slowly, and their realization in practice required even more time; but the American people had established the foundations of a school system of a new type.

5. The Evolution of the American College

I. THE ORIGINAL CHARACTER OF THE COLONIAL COLLEGE

Colleges and universities. The history of American colleges and universities for the period of the Revolution is of peculiar interest. In this period many important institutions were established, and struggles began which culminated in radical changes in organization, course of study, and control of higher institutions.

Original character of the American college. American colleges were distinctly English in origin and character. This is the most fundamental fact to be considered in an effort to understand the development of our system of higher education. It is difficult today to realize how perfectly they once reproduced the English model. Why this was the case may be readily grasped when we recall that all the early institutions had been fully scrutinized by British officials before their charters were granted; and, furthermore, that for the most part they looked to English sympathy for their chief source of financial assistance. Moreover, they drew most of their organizers and teachers from the colleges of Oxford and Cambridge.

Harvard an English college. Harvard, as has been stated, was founded by action of the General Court of the colony in 1636, and, due to the munificence of John Harvard, was established in 1638. Its founders were saturated with the traditional ideal of a college system, which had its origin in the 12th century in close connection with monastic institutional life and ideals. Governor Winthrop, who played a prominent part in originating the new institution, had been trained for several years at Trinity College, Cambridge. Many of the Puritan preachers had graduated at other colleges of this university, especially from Emmanuel, which was at once notable and notorious for its sympathy for Puritans. John Cotton, Thomas Hooker, Thomas Shepard, Samuel Stone, Zachariah Symmes, as well as John Harvard, were

Emmanuel men, and the foremost pastors in the New England colony. Henry Dunster, Harvard's first president (1640–1650) and the one who raised the institution to genuine college rank, was a graduate of Magdalene, another Puritan stronghold. His successor, Charles Chauncy, was trained at Trinity. Among the founders of Harvard were one hundred college men, seventy of whom had been students in the colleges of Cambridge, and thirty in the colleges of Oxford.[2]

From its beginning, therefore, Harvard was to all intents and purposes an English college: it might easily have nestled among the various foundations of Cambridge University. Doubtless these would have treated it with proper academic disdain as a newcomer; but its family likeness they would have quickly recognized.

Like Emmanuel College, Harvard was dedicated to the training of the ministry. The founder of Emmanuel, Sir Walter Mildmay, stated his purpose in quite emphatic terms: [3]

> I wish all to understand, . . . who are to be admitted into the college, that the one object which I set before me in erecting this college was to render as many as possible fit for the administration of the Divine Word and Sacraments; and that from this seed-ground the English church might have those that she can summon to instruct the people and undertake the office of pastor, which is a thing necessary above all others.

How similar to this was the purpose of Harvard, as it was set down in *New England's First Fruits,* a pamphlet published in London in 1643:

> After God had carried us safe to *New England,* and wee had builded our houses, provided necessaries for our livelihood, reared convenient places for God's worship, and setled the Civill Government: One of the next things we longed for, and looked after was to advance *Learning,* and perpetuate it to Posterity; dreading to leave an illiterate Ministery to the Churches, when our present Ministers shall lie in the Dust.

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[2] Thwing, Charles F., *A History of Higher Education in America,* p. 3. New York, Appleton, 1906.

[3] Shelley, Henry C., *John Harvard and His Times,* p. 150. Boston, Little, Brown and Company, 1907.

Just as Harvard was established in Massachusetts, so William and Mary College was founded in 1693 "to the end that the church of Virginia may be furnished with a seminary of ministers of the Gospel, and that the youth may be piously educated in good letters and manners." For this same reason and because Harvard was inclined toward liberalism in theology, Yale College was established in Connecticut in 1701. In its discipline and mode of training it was, if that were possible, even more strictly traditional.

Not only in purpose, but likewise in spirit, curriculum, instruction, discipline, and form of government, these colleges faithfully adhered to the English college traditions. The admission requirements were also the same: ability to read and speak Latin, and a knowledge of Greek grammar.

The Cambridge curriculum in the 17th century was lamentably old-fashioned, consisting chiefly of the liberal arts of the Middle Ages: grammar, rhetoric, logic, arithmetic, geometry, and astronomy. Alterations had been made through the centuries, it is true, but the outlines had remained. Grammar and literature had been transferred to the preparatory Latin grammar schools, and music had been dropped. The Renaissance had replaced the barbarous Latin of the Middle Ages with the purer Latin tongue, and a knowledge of Greek had been added. Logic and rhetoric, as of old, constituted the prime subjects of undergraduate study, while theology was still the premier subject of disputation and professional learning. How woefully backward English institutions were, may be guessed from this single fact: More than a century after Copernicus had astounded the world with his revolutionary astronomy, Cambridge was still punctiliously teaching the Ptolemaic system.

Higher education in England in the 17th century had come to differ essentially from every other in that it subordinated scholarship and learning to discipline and life. It had continued to adhere with true English persistency to the original conception of a college, consisting of the master and his group of students who dwelt with him and were instructed by him, just as the apprentices lived with and were trained by the master craftsman. All students were obliged to live in the college dormitory and to submit to its exacting regimen. Daily worship, the supervision of study, and the inculcation of certain habits of morals and manners were the most common means of forming character. The college still clung to the medieval mode of instruction—the tutorial method—by which each instructor carried half a dozen or more students through their entire course of study. The college was the instrument by which the aristocratic class of England molded the thought and manners of its youth, fitted them for the perpetuation of English institutions and ideals, and prepared them for their station in life. It was a highly organized system of apprenticeship in the fine art of gentlemanly living, according to the form and ideal of the English gentry.[4]

The colonial colleges followed the English model in practically all particulars. Every student was required to live in the dormitory under the master's charge. Daily religious observances, obedience to a long series of rules, and a common mode of life and discipline were followed. Down to 1767, each of the tutors carried a group through the college course, teaching them in all subjects. Only at that late date were tutors appointed for each individual class. In 1767, Yale and in 1773, Harvard abandoned the listing of students in the catalog according to the rank and social standing of their parents—another custom brought over from English university life.

The pronounced English character of our first colleges has been purposely dwelt upon at some length because it fixed the type which all higher education was to follow on this continent. Variations crept in as the decades passed away, but this fundamental conception prevailed everywhere down to the middle of the 19th century. It was college education, implying regulation of conduct rather than professional instruction: residence under restrictions, daily religious exercises, a common dining hall, and constant daily inspection; the forming of a special type of character; a liberal education of limited scope; and formal discipline for the mind as well as the morals. Such were the objectives and means of the traditional American college, which everywhere became the instrument for higher culture.

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[4] No one has expressed the genuine English view of education with more exact and discriminating emphasis than their own John Locke in his statement of the aim of education. (See page 399 of this text.) How supremely important this aspect of education was for the English may be judged from the curious fact that a university degree might be denied a candidate, no matter what his scholarly attainments, if he "had offended his fellow-collegians by unsociableness or moroseness or by 'giving himself airs.'" Gabriel Harvey, the record informs us, was refused his M.A. degree because of charges against him "of cutting his fellow-collegians in the street, of hurrying away from his company 'after dinner and supper,' and of absenting himself from the cheerful blaze of the fire in the combination room." (See Mullinger, J. B., *History of the University of Cambridge from the Earliest Times,* p. 428. Cambridge, University Press, 1873.) Imagine an American college or university of today refusing a degree to a candidate on the ground that he was a common grouch!

The multiplication of colleges. The early part of the 18th century experienced a widespread religious revival known as the "Great Awakening." The various denominations increased in membership and began to organize for more aggressive action, by making provision for training their ministers. As an outcome of this development, a number of new denominational colleges sprang into existence. Among these were Princeton, established in New Jersey by the Presbyterians, in 1746; Dartmouth, in New Hampshire, by the Congregationalists, in 1769, in order to missionize the Indians; King's College (now Columbia), in New York City, founded by the Episcopalians, in 1754; Brown, by the Baptists, in Rhode Island, in 1764; and Rutgers, in New Jersey, by the Dutch Reformed Church, in 1766. The one institution of this period which did not spring from religious influences was the Charity School and Academy of Philadelphia (later to become the University of Pennsylvania), organized through the paramount influence of Benjamin Franklin, in 1751. Pennsylvania may be said to have been the outgrowth of the practical ideal of Franklin. With the exception of Pennsylvania, every one of these institutions, just as the three original colleges, owed its existence to Christian ministers. Moreover each had, if not as its paramount, at least as one of its chief functions, to train young men for the pulpit. In other respects, too, they followed the ideals and practices of their predecessors. They were obliged to seek their charters from English officials who were already waxing suspicious of deviations from established customs. Even the Philadelphia school, despite the utilitarianism of its creator, failed to make any radical departure from the beaten path after the first few decades of its existence.

Something of the inner character of these early colleges can be guessed by considering the youthful age at which students attended. The average age of graduates in the class of 1681 at Harvard was about nineteen and a half years, which is close to the average age at which they now enter; two were twenty-one, four were twenty, two were seventeen, and one is unknown. In 1753, twenty-nine students entered Harvard, and the average age was fifteen years and five months. One of these was twelve and a half, eight were fourteen to fifteen years, and twelve were fifteen to sixteen years. It was not uncommon for students to graduate at fifteen years of age. All these institutions were teaching what we now regard as the secondary school age. Their enrollments were small, and most of their students were preparing for the ministry.

Summary of colonial colleges: 1636–1776. Before the American Revolution, nine colleges had been founded in the colonies. Most of these received public subsidies, and all save one were closely associated with a particular Protestant church, although no one of them is now under denominational control. Some of these institutions have changed their names, and some have changed their locations; but every one is still

COLONIAL COLLEGES, 1636–1776

Institution	*State*	*Religious Alignment*	*Date*
Harvard University [a]	Massachusetts	Congregational [b]	1636
College of William and Mary	Virginia	Anglican [c]	1693
Yale University [d]	Connecticut	Congregational [c]	1701
Princeton University [e]	New Jersey	Presbyterian	1746
University of Pennsylvania [f]	Pennsylvania	Non-sectarian	1749
Columbia University [g]	New York	Anglican [c]	1754
Brown University [h]	Rhode Island	Baptist	1764
Rutgers University [i]	New Jersey	Dutch Reformed	1766
Dartmouth College	New Hampshire	Congregational [c]	1769

[a] Chartered as Harvard College, 1650.

[b] Church established by law in colony in which college was located. Harvard came, in time, under Unitarian influence.

[c] Church established by law in colony in which college was located.

[d] Chartered as Yale College, 1745.

[e] Chartered as the College of New Jersey; took present name in 1896.

[f] Chartered first as the Academy of Philadelphia; became the College, Academy and Charitable School of Philadelphia, 1753; took present name in 1791.

[g] Originally King's College; name changed in the fervor of early nationalism in 1787.

[h] Founded as Rhode Island College; became Brown University, 1804.

[i] Founded as Queen's College.

in existence, and all are now rendering distinguished service. The table on page 558 includes: the name by which each institution is known today, the state in which it is located, the religious body with which the institution was originally aligned, and the date of the founding of each.

As to the spirit of these institutions, two most significant changes had occurred. First, they had begun to be far more democratic than formerly. Harvard and Yale gave up the policy of listing their students according to the social status of the father. Sectarian requirements were gradually abolished. The College of Philadelphia (later the University of Pennsylvania) was, from its establishment in 1749, non-sectarian; King's College (later Columbia), from its establishment in 1754, was liberally disposed; Brown University, founded in 1764, had the following statement in its charter:[5]

> Into this Liberal and Catholic Institution shall never be admitted any Religious Tests but on the contrary all the Members hereof shall forever enjoy full free Absolute and uninterrupted Liberty of Conscience.

The curricula of the newer institutions became much broader than in the older institutions. French was added, and also German. In addition to the ancient languages and the philosophic branches, psychology, logic, ethics, and metaphysics were offered. More attention was devoted to mathematical branches: algebra, geometry, and trigonometry. History became a new interest, and also the sciences, geography, and astronomy. Several institutions added, also, such practical lines as surveying, navigation, husbandry, commerce, and government.

II. The University Movement

Beginning of the university ideal. Concurrent with the Revolution there appeared a sudden quickening of academic interest; in rapid order the existing institutions attempted to transform themselves, while at the same time many new ones were planned. The British authorities had repeatedly refused to grant the people of North Carolina a chartered college.

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[5] Bronson, Walter C., *The History of Brown University,* p. 1. Providence, Brown University, 1914.

This caused much bitter feeling among them. Grasping the very first chance, as early as 1776 they placed in the constitution of the state a provision for "one or more universities." A little later the first constitution of Vermont likewise provided for the creation of a state university. In 1779, Thomas Jefferson introduced a bill into the General Assembly of Virginia, in which he "proposed to amend the constitution of William and Mary College, to enlarge its sphere of science, and to make it in fact a university." This bill failed to pass.

This same year the so-called College, Academy and Charitable School of Philadelphia was, by act of legislation, converted into the University of the State of Pennsylvania. This action is notable as it was the first specific act of legislation establishing a state university. In 1791, the institution adopted as its permanent name, University of Pennsylvania, but it was returned by the legislature to private management. In 1780, Harvard was rechartered and designated a university, although it failed for many years to use this title, an action not without genuine significance. In 1784, New York passed an act establishing the University of the State of New York. Georgia did the same the following year. In 1790, the "National University" was first proposed, to be created and supported by the Federal Government. President Washington recommended its establishment and left twenty-five thousand dollars for its endowment. By an act of the General Assembly of Kentucky, 1798, Transylvania University was established, which in 1845 was consolidated with the University of Kentucky. In 1802, the legislature of the Northwest Territory chartered the American Western University. Brown University took its present title in 1804. Louisiana established the University of New Orleans as a state institution in 1805; Michigan was founded in 1817; and Virginia, in 1819. Thus, after the Revolution, the university ideal as opposed to the traditional church college took strong hold upon the minds of American leaders. These institutions were to be entirely secular; instruction was to be gratis; and, in place of functioning as seminaries for the training of preachers, they had in view the making of lawyers, jurists, legislators, governors, doctors, and other professional servants for society and the state. These institutions represented a wholly new order of affairs in higher education, and had little in common with the narrow religious college of former days. The curricula were to be as broad as the new purposes which inspired them; modern languages and the physical as well as the social sciences were to be emphasized as central features.

The most extraordinary proposal which appeared at this period has yet to be mentioned; it has, as a matter of fact, been overlooked in histories of American education. This was the plan of combining all the schools and educational institutions, together with the other agencies of culture within the state, into one grand, unitary organization, to be designated the *University* of the state.

When the Constitution of Vermont called for the establishment of a university, the president of Dartmouth College (which, with the town of Hanover, was temporarily shifted by a political accident into the state of Vermont) proposed to the General Assembly that this college should become the university for that state. In his letter may be found the following, among other petitions: [6]

> And, moreover, that you grant unto this university that there be two or three Charity Schools or Academies, besides the present, erected upon the same plan, and under the same jurisdiction, and for the same pious purposes, as the present in connection with this university is, and they to be fixed in such places as your State shall judge most convenient.

This delightful flirtation of Dartmouth with the State of Vermont was soon interrupted by shifting the town of Hanover back again into New Hampshire. But an effort was later made to do privately what was here proposed to be done publicly: to form a system of elementary schools and academies in organic relation with the college.

As early as 1785 the charter of the University of Georgia empowered the *Senatus Academicus* to establish, control, and supervise all the public schools to be supported by the state. It was to select all the teachers to be employed, to prescribe the branches to be taught, and, finally, to examine the results.[7]

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[6] Chase, Frederick, *A History of Dartmouth College and the Town of Hanover,* p. 473. Cambridge (Mass.), J. W. Wilson and Son, 1891–1913.

[7] Hull, A. L., *A Historical Sketch of the University of Georgia,* p. 8. Atlanta, Foote and Davies Company, 1894.

The University of the State of New York. In 1784, the New York Legislature passed an act entitled "An Act for establishing a university within this state." Far-reaching authority was granted the Regents, for they were "empowered to found schools and colleges in any part of this State" and to endow them—"every such school or college being at all times to be deemed a part of the University and, as such, subject to the control and direction of the said Regents" and to their visitation.[8] It was the hope of many powerful friends that King's College, which was discontinued at the time of the Revolution, would become the apex and vitalizing spirit of the centralized system for the diffusion of learning to all parts of the State of New York. It was probably due to the over-zealousness of these friends that New York did not have one university which encompassed all the educational institutions and schools of the state within its colossal grasp. As it turned out, the central, or head, institution alone was missing; otherwise, the system, as it was constituted, accomplished the plan of unification of all educational agencies into what is known as the *University of the State of New York.* This institution is in operation today and has jurisdiction over all higher education within the state.

The University of New Orleans. In 1805, the legislative council of Louisiana took action toward the establishment of the University of New Orleans. After an elaborate and florid preamble, the law required that the Regents "shall as speedily as may be, establish a college within the limits of the city of New Orleans, for the instruction of the youth in the Latin, Greek, English, French, and Spanish languages, as well as in the sciences, philosophy and literature." They were further instructed to establish in each county one or more academies for boys, and others for girls; also, a public library for each county was planned. The expense was to be cared for by two lotteries, which were then the popular method of financing public instruction. The college was put into operation, but the entire scheme was soon abandoned.

The University of Michigan. Nowhere did this movement for a centralized system find better expression than in the case of Michigan. The governor and judges who constituted the first legislature passed an act, in 1817, creating the University of Michigan.[9] Power was granted the president and professors "to establish colleges, academies, schools, libraries, museums, atheneums, botanical gardens, laboratories, and other useful literary and scientific institutions consonant to the laws of the United States of America, and of Michigan, and to provide for and appoint directors, visitors, curators, librarians, instructors, and instructrixes in, among, and throughout the various counties, cities, towns, townships, or other geographical divisions of Michigan." All these subordinate teachers and officers were to be paid from the university treasury. Under its bizarre charter, the university established a number of primary schools and a college in Detroit, which was called the first college of Michigan; some years later, no less than ten branches or preparatory schools were opened by the Regents. As in Louisiana, this educational scheme was to be supported by lotteries.

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[8] Sherwood, Sidney, *History of Higher Education in New York,* p. 53. Washington. United States Bureau of Education, 1900.

French educational plans. What explanation can be offered for these peculiar developments? Why did Americans turn so suddenly from the traditional church college to the secular state university—from the local and individual institutions to the centralized organization embracing all elementary schools, academies, libraries, museums, and lyceums throughout the entire state? What changed their idea as to the aims of education and broadened the curricula of the schools? There is but one satisfactory explanation. It was the influence of French educational views. Far too little importance has been attached to their effects. While everyone knows how French philosophy and political ideas dominated the 18th century on both shores of the Atlantic, few understand the spread of French educational theories and plans of school organization on this side of the water. Many of the writers on higher institutions, finding some of the peculiar survivals of this imperious scheme for the organization of culture, have shied away from them entirely, or have suggested some far-fetched and absurd explanation for their existence.[10]

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[9] This act, in part, reads:

"*Be it enacted by the Governor and the Judges of the Territory of Michigan,* That there shall be in the said Territory a catholepistemiad, or university, denominated the Catholepistemiad, or University of Michigania. The Catholepistemiad, or University of Michigania shall be composed of thirteen didaxiim or professorships: first, a didaxia, or professorship, of catholepistemia, or universal science, the didactor, or professor of which shall be president of the institution. . . ."

Then follow the "didaxia," or professorship of "anthropoglossica" or literature, embracing all the "epistemiim," or sciences relative to language; of "mathematica," "physiognostica," "astronomia," "chymia," "iatrica," or medical sciences; of "oeconomica," "ethica," "diegetica," or historical sciences; "polemitactica," or military sciences; and "enmoeica," or intellectual sciences, "embracing all the epistemiim, or sciences relative to the minds of animals, to the human mind, to spiritual existences, to the Deity, and to religion, the didactor or professor of which shall be vice-president of the institution."

This scheme, the most quixotic and grandiose in American educational history, may be found in full in Hinsdale, Burke A., "Notes on the History of Foreign Influence upon Education in the United States," in *Report of the United States Bureau of Education* (1897–1898), Vol. I, pp. 591–629.

In his *History of the University of Michigan,* Dr. B. A. Hinsdale explained its quixotic charter: [11]

> Students of educational history know very well where to find the original of the Catholepistemiad of Michigan. That original is the Imperial University that the First Napoleon gave to France in 1806—which was not, in fact, a university at all, but rather a highly centralized organization of state instruction, having its center in Paris. It should be observed that, besides carrying on the central institution, or the university proper, the President and Didactorium of the Catholepistemiad were also authorized to establish colleges, academies, libraries, etc., throughout the Territory of Michigan.

French educational influence spread in our country in several ways, but more by personal contact than by literature.

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[10] Until recently only a few writers—notably, Herbert B. Adams in *Thomas Jefferson and the University of Virginia;* Sidney Sherwood in *History of Higher Education in New York;* B. A. Hinsdale in "Notes on the History of Foreign Influences upon Education in the United States"; and, more recently, Charles F. Thwing in *A History of Higher Education in America*—have given much credit to the prevalence of French influence over American educational views from 1776 to 1820. The French plan is discussed fully in the next chapter of this text.

[11] Hinsdale, Burke A., *History of the University of Michigan,* p. 10. Ann Arbor, University of Michigan Press, 1906.

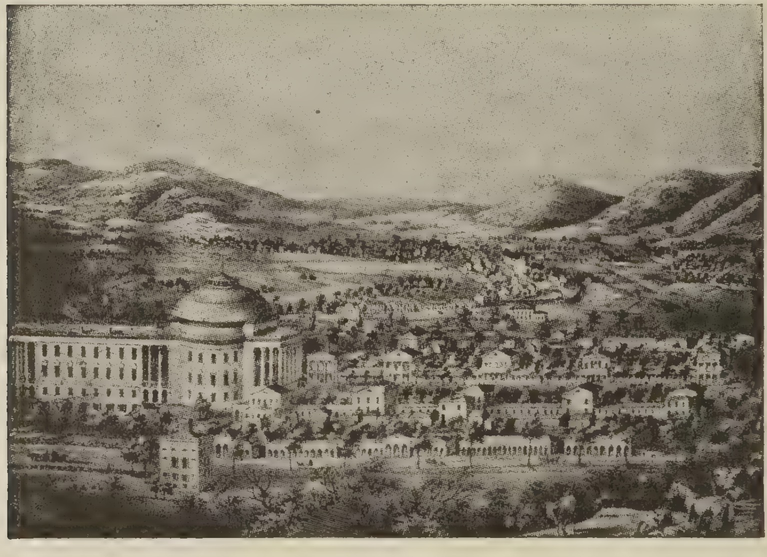
Prominent Americans sojourning in France during the era of its educational revival caught its enthusiasm and broadcast the new ideas in America. Among these were Benjamin Franklin, John Adams, Thomas Jefferson, John Jay, and Ezra L'Hommedieu.

Adams spread French conceptions in New England, where, after his return from France, he formed the *American Academy of Arts and Sciences,* in 1780. Moreover, this same year, he led in the rechartering of Harvard and in the effort to make it a university. John Jay and Ezra L'Hommedieu originated the University of the State of New York. Thomas Jefferson, as is well known, repeatedly attempted to establish a complete system of public schools in Virginia, and became the father of the University of Virginia, which was largely influenced by French ideas.

Again, French teachers and educators came to this country and attempted to do for culture what Lafayette had done for political life. In 1780, Simon Paulin was appointed to teach French at Harvard; two years later, he was superseded by Albert Gallatin, who became celebrated in American statecraft. Columbia University established a chair of French in 1779; William and Mary, in 1793; and Union College, in 1806. Among the brilliant Frenchmen who attempted to organize education in the new Republic were two outstanding figures. One was Chevalier Quesnay de Beaurepaire—grandson of Quesnay, founder of the physiocratic movement—who came to America with Lafayette and fought in the Revolution. Remaining in America, he conceived the idea of linking the United States with French culture. To this end he established the *Academy of Sciences and Fine Arts of the United States of America,* with headquarters at Richmond, Virginia. It was an institution at once national and international, being affiliated with the Royal Societies of London, Paris, and Brussels; but it was, unfortunately, of short duration. The other figure was Dupont de Nemours, also a Physiocrat, who, in 1800, at the suggestion of Thomas Jefferson, published a work, *National Education in the United States* (*Sur l'Education Nationale dans les Etats-Unis*), which had considerable influence upon American students of education.

The contributions which all this French propaganda made to American education may be summarized as follows: (1)

The term *university* came into general usage for designating institutions of higher learning. (2) The idea of state support and state control of education was accepted as a logical necessity of republican government. (3) Higher education took as its new aim the training of lawyers, judges, legislators, and civil servants for the state, rather than ministers for the church. (4) The view that secular education should replace religious training under the control of the church was adopted. (5) Instruction was everywhere to be gratuitous. (6) All the agencies necessary for the diffusion of knowledge—schools, academies, libraries, and other institutions—were to be organized into an articulate system, if not under unified management. (7) The curriculum was more broadly conceived, as taking into view modern languages, and the natural and the social sciences; professional training in law, medicine, and engineering was to become a part of university training. (8) A complete system of schools required three levels: elementary, secondary, and higher.



UNIVERSITY OF VIRGINIA.

The importance of the final deposit from the French educational interest is difficult to estimate. Due to this influence, a number of states took the first step toward establishing universities under public control and with purely secular aims in view. These institutions, however, remained rather feeble for many decades and did not exert a very wide influence; in fact, most of them reverted eventually to the traditional college type. The outstanding exception, however, was the University of Virginia. To what extent French ideas may have influenced its period of incubation is highly problematical, for there were rival forces at work. When it was finally established, the French influence had already waned. Furthermore, brilliant and widespread as was her own influence, the University of Virginia did not have the opportunity to mother a large number of other schools; and, after the Civil War, when the universities of America were emerging, her resources were enfeebled to the point where the struggle for mere existence exhausted her energies. The noble and exalted standard which Jefferson set up has, therefore, remained too largely an unrealized dream for this daughter of Virginia.

COLLEGES ESTABLISHED FROM THE REVOLUTION TO 1799

Date	*Name*	*State*	*Auspices*
1782	Washington College [a]	Maryland	Non-sectarian
1783	Dickinson College	Pennsylvania	Non-sectarian
	Hampden-Sidney College	Virginia	Presbyterian
1784	University of Georgia	Georgia	State
	St. John's College [a]	Maryland	Episcopal
	Cokesbury College	Maryland	Methodist
1785	College of Charleston [b]	South Carolina	Non-sectarian
1787	Franklin College (1835, Franklin and Marshall)	Pennsylvania	Non-sectarian
1789	Georgetown University	Dist. of Columbia	Jesuit
	University of North Carolina	North Carolina	State
1791	University of Vermont	Vermont	State
1793	Williams College	Massachusetts	Congregational
1794	Greeneville and Tusculum College	Tennessee	Presbyterian
	Blount College (1807, University of Tennessee)	Tennessee	State
	Bowdoin College	Maine	Non-sectarian
1795	Union College	New York	Non-sectarian
	Washington College	Tennessee	Presbyterian
1799	Transylvania University	Kentucky	Presbyterian

[a] These two were united into the first University of Maryland in 1785.
[b] Two other colleges were established by the same legislation, and a fourth in 1795, and a fifth in 1797.

COLLEGES ESTABLISHED FROM 1800 TO 1830

Date	*Name*	*State*	*Auspices*
1800	Middlebury College	Vermont	Non-sectarian
1801	University of South Carolina	South Carolina	State
1802	Jefferson College	Pennsylvania	Presbyterian
1804	Ohio University	Ohio	State
	Baltimore College	Maryland	Non-sectarian
1805	University of New Orleans	Louisiana	State
1806	Washington College (1865, Washington and Jefferson)	Pennsylvania	Presbyterian
	Cumberland College (1826, University of Nashville)	Tennessee	Non-sectarian
1807	University of Maryland	Maryland	State
1808	Mount St. Marys	Maryland	Catholic
1809	Miami University	Ohio	State
1812	Hamilton University	New York	Presbyterian
1813	Colby College	Maine	Baptist
	Washington College (1749, Liberty Academy; 1871, Washington and Lee University)	Virgina	Non-sectarian
1815	Allegheny College	Pennsylvania	Presbyterian
1816	Asbury College	Maryland	Methodist
1817	University of Michigan	Michigan	State
1819	University of Virginia	Virginia	State
	Madison University	New York	Baptist
	Western University of Pennsylvania	Pennsylvania	Non-sectarian
	Center College	Kentucky	Presbyterian
	Maryville College	Tennessee	Presbyterian
1820	Indiana Seminary (1828, Indiana College; 1838, Indiana University)	Indiana	State
1821	University of Alabama	Alabama	State
	Amherst College	Massachusetts	Private
	Columbian College	Dist. of Columbia	Baptist
	Gonzaga College	Dist. of Columbia	Catholic
	St. Mary's College	Kentucky	Catholic
1822	Hobart College	New York	Episcopal
1823	Trinity College	Connecticut	Episcopal
1884,	University)	Ohio	Episcopal
1825	Franklin College	Ohio	Non-sectarian
	Centenary College	Louisiana	Methodist
	Western Reserve College (1880, Adelbert College; 1884, University)	Ohio	Presbyterian
1826	Furman University	South Carolina	Baptist
	Cumberland College	Kentucky	Presbyterian
	Lafayette College	Pennsylvania	Non-sectarian

COLLEGES ESTABLISHED FROM 1800 TO 1830 (CONTINUED)

Date	*Name*	*State*	*Auspices*
1827	Shurtleff College	Illinois	Baptist
	Madison College	Pennsylvania	Methodist
1828	Wesleyan College	Connecticut	Methodist
	Hanover College	Indiana	Presbyterian
	McKendree College	Illinois	Methodist
	Maryland College	Maryland	Non-sectarian
1829	Georgetown College	Kentucky	Baptist
	St. Louis University	Missouri	Catholic
	Randolph-Macon	Virginia	Methodist
	Illinois College	Illinois	Non-sectarian
	Mercer University	Georgia	Baptist

Growth of colleges and universities. At the beginning of the 19th century the higher institutions of America were still small and simple colleges, whose purposes were to discipline the youth by furnishing a liberal education and to offer a training for the ministry. Nor were these purposes materially changed until after the Civil War, in spite of the powerful current of new ideas from abroad. The former ideals and traditions quickly reasserted themselves and kept the colleges in conservative grooves.

Several great social movements occurred during the first quarter of the 19th century, when conditions were plastic and American civilization was searching its own path of development. A great religious awakening aroused the people in all parts of the country, and effectually checked the spread of irreligious thinking that accompanied the French Enlightenment. The separation of church and state and the adoption of complete religious liberty were among the most transforming changes which took place. The colleges that had formerly imposed religious tests now opened their doors to all students, without respect to their beliefs. Not that they were less religious; they merely discarded formalism in exchange for a more genuine piety.

During the period of the great western expansion, the various denominations and most of the states established an abundant number of colleges and universities. In this vast movement, Harvard, Yale, and Princeton were the models invariably followed. Through their graduates they became the prolific mothers of institutions which sprang up everywhere in the Middle West and the South. Something of the magnitude of this growth of colleges may be partially guessed from the following table:

UNIVERSITIES AND COLLEGES ESTABLISHED
IN THE UNITED STATES

Period	*Number*
Before 1780	9
1780–1789	10
1790–1799	8
1800–1809	11
1810–1819	11
1820–1829	25
1830–1839	38
1840–1849	42
1850–1859	92
1860–1869	73
1870–1879	61
1880–1889	74
1890–1899	54

It must be stated, however, that the number of colleges established was actually much larger than that given in this table. The history of many of the efforts to establish colleges has never been, and probably never can be, fully written, for many of the institutions have become defunct.

Evolution of independent government in colleges. It has been noted earlier that the first colonial colleges received support from the civil governments, from churches, and from private sources. As sects multiplied in the various colonies, serious disputes arose respecting the control of colleges.

At Harvard, liberals and conservatives in theology were estranged by the beginning of the 18th century, and the dispute was intensified near the middle of the century when the religious leaders of the college opposed the "Great Awakening." Efforts of the Massachusetts Legislature to control the institution were successfully resisted by the corporation. From its earliest history Harvard received support from the colony, and the Legislature of Massachusetts voted direct subsidies to it; but private funds played an increasingly preponderant part in its support. In 1824, the legislature made its last direct grant to the college; in 1865, an act was passed placing the institution entirely under the control of its corporation and alumni. Thus was completed the development of a university government not responsible, in the discharge of its educational work, to either church or state.

The struggle in Virginia for state control of the College of William and Mary resulted in the virtual abandonment by the state of the college for more than a century, and the centering of state support of higher education at the University of Virginia.

At Yale, the struggle for state support resulted in the failure of the Connecticut Legislature to pass the usual grant to the college in 1755. In the decade preceding the outbreak of the War for Independence, dissatisfaction at Yale centered about the problem of standards and of college curriculum. The president and tutors resigned, and a new group—among them, Timothy Dwight, later a famous and liberal president of the college, and John Trumbull, who criticized current college practices—were entrusted with the conduct of the college. Under the presidency of Dwight (1795–1817), the curriculum of the college was liberalized. The claims of the state for a share in the direction of the college were finally met by a new charter, under which the governor, lieutenant-governor, and six senators from Connecticut were made *ex officio* members of the corporation. In 1872, the charter was again changed; since that time, six graduates, chosen by the alumni, have replaced the six senators. In spite of this change in the Yale charter, the institution has remained an independent foundation, controlled by a self-perpetuating body.

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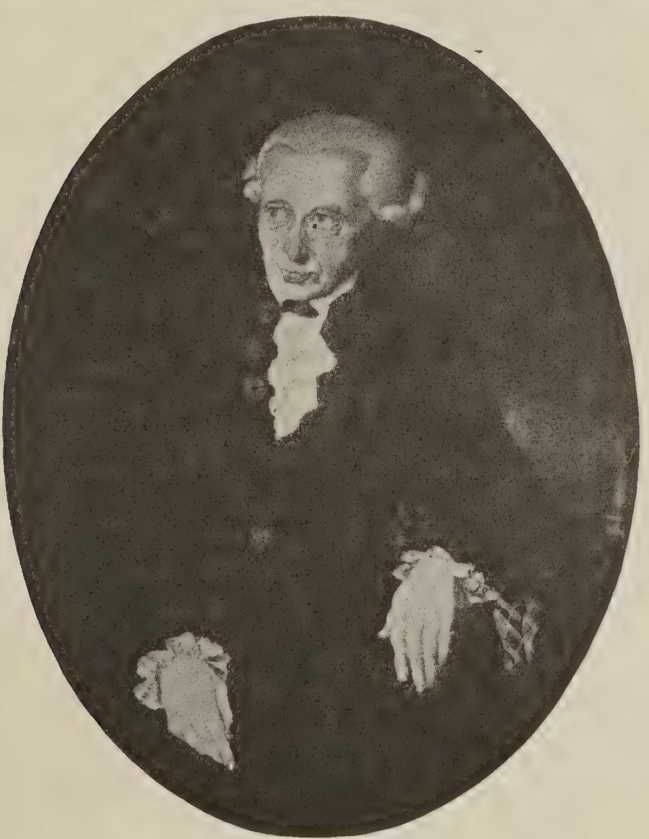
CHAPTER XVI

THE GROWTH OF NATIONAL SYSTEMS OF EDUCATION

Chief influences affecting education. The latter half of the 18th century and the beginning of the 19th saw tremendous changes in the attitude of rulers and governments towards the rights of the people, and in the relation of the state to education. These changes were due to several causes, the chief of which were: (1) the deepening sense of the rights of the individual man, and the greater significance attached to his personality; (2) the growth of philanthropic sentiment both within and without the bounds of the church; (3) the influence of the philosophic Enlightenment and the doctrines of the Physiocrats; and (4) the Industrial Revolution.

The rights and new significance of the individual. The emancipation of the individual from ecclesiasticism, philosophic dogmatism, and economic and political thraldom had reached its climax soon after the middle of the 18th century. The doctrines of equality and of inalienable natural rights had operated as a subtle leaven throughout the middle and upper classes of western Europe and America. The passionate demand of Rousseau for the emancipation of the individual from social bondage echoed everywhere. It was amplified in power by the speculative philosophy of the profound German philosopher Immanuel Kant, whose ethical principles required that an individual must never be used as a mere instrument for another's profit, for each man is an end in himself in the kingdom of social ends. In his famous admonition, Kant gave the world a higher appreciation of the inherent worth of the individual: "Be a person and reverence all others as persons." This Kantian maxim added the keystone to the new and deeper view of the rights of man. It soon became recognized that, not only has each individual an inherent right to life, liberty, labor, property, and the pursuit of happiness, but, in view of these rights, he has a preliminary right to the development of his native capacities. Without this he would be unable to assert and to profit by his native rights as a man. Such is the new and basic conception upon which educators began to build a new pedagogy during the final decades of the 18th century and the beginning of the 19th.



Immanuel Kant.

Benevolent despotism and education. The new attitude toward man issued in two forms of government: benevolent despotism, east of the Rhine; and democracy, in France, England, and America. The benevolent despots were chiefly influenced by the principles of the Physiocrats; the republicans followed the advice of British and French political thinkers.

Many of these thinkers were under the delusion that legislation has unlimited power to mold the individual and to control society by means of education. The general plan of the universe, as they conceived it, provided natural laws for the government of all things, including man and society. Newton had discovered the universal law governing the physical world; there must be similar laws regulating the moral and social order. All the ills of mankind could be speedily cured by the discovery of these fundamental laws, and by their use in controlling and educating the race. Accordingly, the art of government was to be founded upon an exact science, and all the affairs of men were to be brought into perfect order and efficiency. Who, then, was to place these laws in operation?

The Encyclopedists and the Physiocrats looked to intelligent and benevolent rulers. They were the interpreters of the natural law, the social engineers of all human affairs. "It is an obligation laid upon sovereigns," announced Dupont de Nemours, "to promulgate by positive ordinances the natural and essential laws of the social order." Kings existed for the benefit of their people, not the people for the benefit of the kings.

These *Philosophes* and *Economistes* had no confidence in representative parliaments and legislatures elected to make laws. Such a procedure was too slow, too laborious, and subject to political uncertainty. It was, in fact, an absurdity. An enlightened despot could issue a few rationally devised laws which would speedily bring order into social and economic life. But, in spite of their distrust of democracy, its principles triumphed in France and America. The nationalization of education took place under both the republican and the bureaucratic forms of government. Under the one, education was promoted in order to procure obedient, contented subjects and efficient producers; under the other, to train citizens who possess the intelligence to perpetuate free government.

1. Nationalization of Education in France

Plans for national education in France. From the middle of the 16th to the middle of the 18th century, education in France was conducted by the Jesuits and several other religious orders which they largely dominated. An educational revolution then took place, and in 1764 the numerous Jesuit colleges were summarily suppressed, thus leaving the French people quite destitute of schools. Immediately, La Chalotais, Diderot, Mirabeau, Talleyrand, Condorcet, and others began to present plans for a complete system of national schools to take the place of the hierarchical organizations of the teaching orders. Numerous as were these plans down to the end of the century, they all followed very much one and the same type of organization, which required the centralization of all culture under public control.

IMPORTANT WORKS ON FRENCH EDUCATION

Date	*Author*	*Title*
1757	Helvetius	*On the Soul* (*De l'Esprit*)
1762	Rousseau	*Emile* (*Emile*)
1762	Rousseau	*The Social Contract* (*Contrat Social*)
1763	La Chalotais	*Essay on National Education* (*Essai d'Education Nationale*)
1768	Roland	*Plan of Education* (*Plan d'Education*) *Report on Education to Parliament of Paris*
1772	Helvetius	*Treatise on Man* (*De l'Homme*)
1775	Turgot	*Memoires* (*Mémoires*)
1776	Diderot	*Plan of a University for the Russian Government*
1791	Diderot	*Provision on Education*
1792	Condorcet	*Report on the General Organization of Public Instruction Presented to the National Assembly*

French ideas of educational organization. The ideas of French writers and political reformers on the organization of education during the latter half of the 18th century may be summed up in the following points:

(1) Education must be taken out of the hands of the church and must be wholly controlled by the state. All French savants agreed that lay instructors must be substituted for the religious teachers and orders.

(2) Education must be universal. The writers of the period were in favor of public enlightenment. But the extent of free schooling brought forth a variety of opinions. La Chalotais

feared too much education for the common people. He declared: [1]

> The welfare of society requires that the education of the common people should not go beyond its occupations. Any man who looks beyond his trade will never work at it with courage and patience. It is hardly necessary that any of the common people should know how to read and write except those who earn their own living by these arts, or whom these arts help to earn their living.

Roland, in his report to Parliament, recommended: [2]

> Education cannot be too widely diffused, to the end that there may be no class of citizens who may not be brought to participate in its benefits. It is expedient that each citizen receive the education which is adapted to his needs.

Diderot and Condorcet also favored universal instruction.

Opinion was at variance as to how far education should extend in the life of the child. For most writers, only primary education was to be universal and free. They did not expect many children to go beyond that stage. Only primary instruction was contemplated for girls.

(3) The objectives of education were radically revised in accord with the new philosophy of the day. Civic virtues took the place of the religious and humanistic. The chief objectives were enlightenment, the development of a national spirit, fraternity, the ability to guard one's own rights and to serve the state in civil offices.

(4) Secularization of instruction must take the place of religious indoctrination. Of this, Compayré remarks: [3]

> As a matter of fact, the whole pedagogy of the eighteenth century is dominated by the idea of the necessary secularization of instruction. Thorough-going Gallicans like La Chalotais or Rolland, dauntless free-thinkers like Diderot or Helvetius, all believe and assert that public instruction is a civil affair. . . . All wish to substitute lay teachers for

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[1] La Fontainerie, F. de, *French Liberalism and Education in the Eighteenth Century,* p. 60. New York, McGraw-Hill, 1932.

[2] Roland's *Report on Education.* Quoted by Compayré, G., *History of Pedagogy,* p. 356. Boston, Heath, 1885.

[3] Compayré, G., *op. cit.,* pp. 344–345.

religious teachers, and to open civil schools upon the ruins of monastic schools.

(5) In general, five grades of instruction were recognized: (*a*) the primary school; (*b*) the secondary school, corresponding to the intermediate grades; (*c*) institutes or colleges for higher general instruction, corresponding to our modern high schools and colleges; (*d*) professional schools for law, medicine, theology, and other learned professions; and (*e*) the National Society of Sciences and Arts.

(6) The general opinion held that instruction should be free, even for adult and professional training. Condorcet demanded that tuition "be absolutely free" throughout. Talleyrand would make primary instruction free. Others would place the limit of free instruction at a higher level. Where there was not free instruction for all, children of marked ability were to be given scholarships. Diderot would make education gratuitous for all of every grade. This was, however, not the unanimous view.

(7) Talleyrand and Mirabeau did not favor compulsory education, but Diderot would make attendance obligatory.

The later educators were more practical minded. In order to make France republican and to overcome the indifference of the ignorant masses, they believed instruction should be "imperative and forced." Lepelletier, at the close of the century, represented this view: not only would he make education compulsory but all must be trained in common. Complete equality must be sought: [4]

> Let us ordain that all children, girls as well as boys, girls from five to eleven, and boys from five to twelve, shall be educated in common, at the expense of the State, and shall receive, for six or seven years, the same education. . . . In our system the entire being of the child belongs to us; the material never leaves the mould. . . . Whatever is to compose the Republic ought to be cast in the Republican mould.

Lepelletier would rear all children in state barracks. All education is compulsory and free; and all pupils have precisely the same studies and regimentation, and acquire the common *esprit de corps.*

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[4] *Ibid.*, p. 398.

(8) A number of other features were demanded by some of the reformers: freedom of teaching, uniformity of instruction for all classes, adult education, and scholarships for poor but brilliant students. The dearth of textbooks was frequently mentioned. The revision of the curricula received marked attention. The emphasis came to be placed upon the natural sciences, history, and geography, but the central feature of the course of study was generally government and the duties of the citizens.

Popular demands for a national system. The demands for the setting up of a national system of education became insistent by the time of the Revolution. The recommendations for reform voiced in the *cahiers* sent up from the people in 1789 included the following resolutions: [5]

> Public education should no longer be limited to the study of the Latin language. It should embrace the sciences useful for the physician, lawyer, the military man and even some pleasurable arts. [*The Nobles,* Chateau-Thierry.]
>
> Instruction should be organized to suit the present. Instead of allowing the youth to exhaust himself in the arid study of a dead language, he will be taught morals, *belles-lettres,* the languages, sciences, history, the law of nations and the law of nature. [*The People,* Bordeaux.]
>
> There should be taught the exact sciences, physics, chemistry, natural history, history, geography, fine arts, living languages, by giving to these studies the time which is devoted to the almost useless work of logic. [*The People,* Vouvant.]

These resolutions concerned only secondary training. But the demand for primary instruction for all the people was still more widely urged. The Constitution of the Republic, in 1791, has this provision for national education: [6]

> There shall be created and organized a system of public instruction, common to all citizens, and gratuitous with re-

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[5] Gréard, O., *Education et Instruction Enseignement Secondaire,* Vol. II, p. 41, note. Paris, Librairie Hachette et Cie., 1889.

[6] Compayré, G., *op. cit.,* p. 372.

spect to those branches of instruction which are indispensable to all men.

The University of France. In 1806, Napoleon established the long awaited national system of education in France—the most unique and centralized system called the "University of France." The law read: [7]

> There shall be constituted a body charged exclusively with instruction and public education throughout the whole extent of the Empire.
>
> No one can open a school or teach publicly, without being a member of the Imperial University and without having been graduated from one of its Faculties. . . . No school can be established outside of the University, and without the authorization of its head.

Thus, after half a century of interminable discussion, France secured the beginning of a national school system. The emphasis was, strange to say, upon higher instruction. Napoleon treated with contemptuous indifference all efforts to interest him in Pestalozzian methods of primary instruction. Primary education was, therefore, sadly neglected. Moreover, the grandiose centralized establishment was not to be free in its pursuit of culture and learning, but rather it was to be merely an instrument of propaganda and nationalization.

2. Nationalization of Education in Germany

Influences affecting German education. Throughout the 18th century three major influences affected the evolution of education in Germany. These movements were: (1) Pietism and the pietistic schools of Francke; (2) the doctrines of the French Enlightenment and of Physiocracy; and (3) the new Humanism. Only two of these movements were native. Pietism exerted its influence mainly in the field of elementary education. The French Enlightenment was confined entirely to the ruling class, the German nobility. The new Humanism, which arose well toward the end of the century, had to do chiefly with the reorganization of secondary and university instruction.

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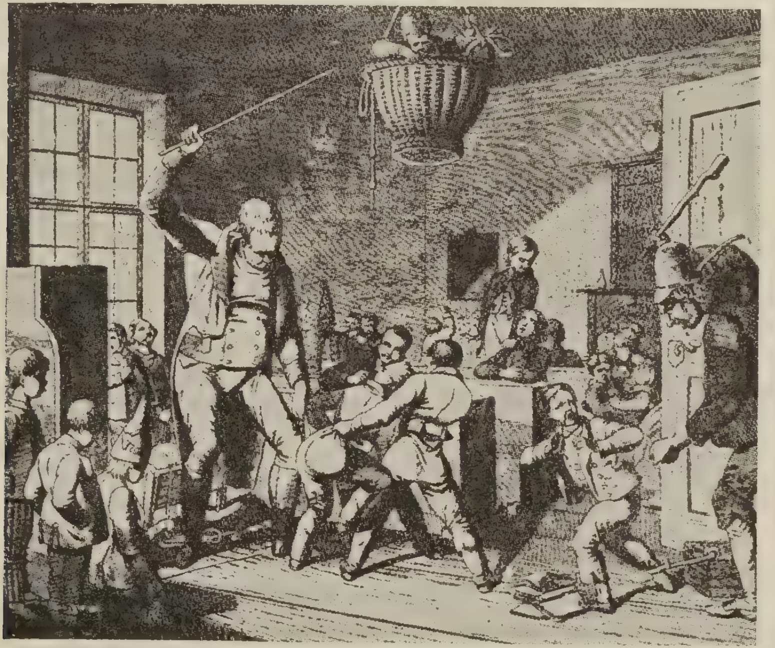
[7] *Ibid.*, pp. 510–511.

The Enlightenment in Germany. The Enlightenment and the subsequent movements, Physiocracy and Naturalism, did not take the same direction in Germany which they took across the Rhine. In France, the dominant developments were political and social; the French Revolution and the fraternalization of the French people were the result. In Germany, these movements were confined to the ruling class; German princes and the petty nobility were completely dominated by French court life. They used the French language, bought their furniture and clothes in Paris, and in every way aped French manners and ideals. The common people of Germany were wholly oblivious to all this, and plodded along like dumb cattle. They were not permitted to think of political affairs; whatever effects the new ideas were to exert came directly from those rulers who were moved by benevolent impulses to benefit their subjects. Led by Frederick the Great, the rulers saw no reason to forbid philosophical speculation, scientific research, literature, and the fine arts. In consequence of this liberty, the greatest developments of German genius are found in these fields. The results of this Germanic *Aufklärung* form the most brilliant era of German history in philosophy and literature.

Prussia leads in new beginnings. During the first half of the century, Germany was still a land of some three hundred and sixty separate, insignificant principalities and free cities. The imperial throne had never been sufficiently powerful to bring about a large measure of unity, but it was strong enough to prevent any of the member states of the loosely formed empire from becoming dominant. One of the least productive and most scattered of these kingdoms, Prussia, was soon to attain political hegemony and to assume educational leadership. It did this because of the sagacity of its rulers—especially the genius of Frederick II, usually termed Frederick the Great.

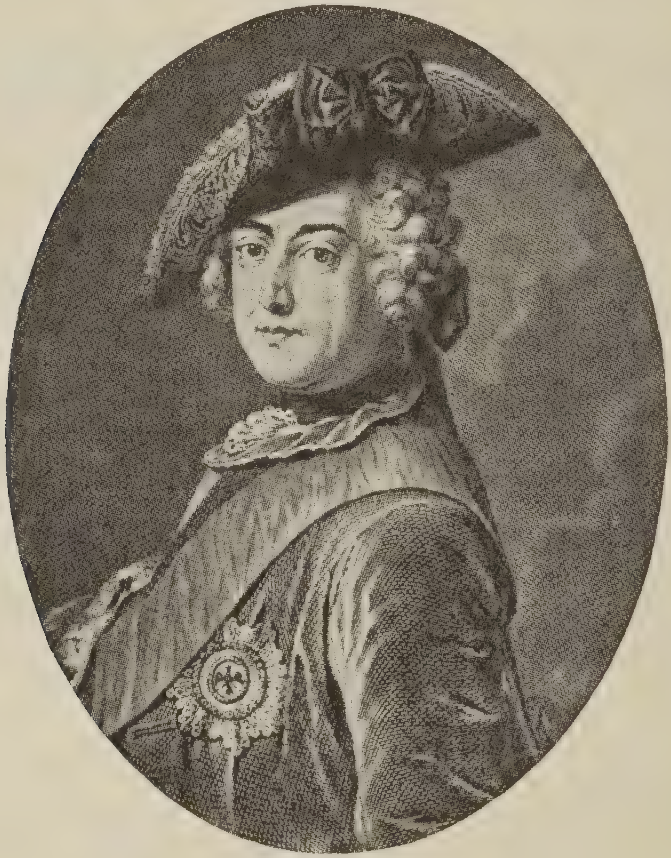
Earlier efforts to reform the schools. Frederick came naturally by his interest in educational affairs, for he inherited it from his father and grandfather. The latter, Frederick William I, had a deep attachment to pietistic doctrines and the philanthropic reforms of Francke. He led in the establishment of some eighteen hundred new schools in his kingdom, and even provided a small endowment for their promotion. In some instances he provided lumber for buildings, and generally took an interest in the appointment of more efficient teachers. Among his other reforms, he made education compulsory in the school law of 1717. Frederick's father took further steps to build up better schools. But all the efforts of these two did not bring satisfactory results. Lack of money, indifference on the part of the nobility, distrust of the masses because of gross ignorance as to schools, lack of trained teachers, and political difficulties combined to destroy the fruits of their planting.



A German School of the Late Eighteenth Century.

Frederick the Great. Frederick was a romantic and impractical youth whose genius flowered only when he was confronted with the actual responsibilities of government. He proved himself great as a general, sovereign, and practical philosopher, though he always retained a deep vein of cynicism. By his shrewd intelligence and management he extended his small and scattered domain until Prussia, in its own right, had to be rated among the first powers of Europe.

Frederick was a friend of Voltaire, and generally was very hospitable to the doctrines of the Encyclopedists and Physiocrats. He was the most brilliant of the benevolent despots, an absolutist who regarded himself as "the first servant of the state." Possessed with a discerning and independent mind, he followed the French theorists only so far as they suited his clear-sighted purposes. Himself a freethinker, he tolerated every form of religion, even refusing to join the general effort to suppress the Jesuit Order. He granted a large measure of freedom to the press, and permitted liberty of speech so long as it did not have to do with the affairs of government. He instituted numerous reforms, but always



Frederick the Great.

as autocratic acts and never as concessions to popular unrest. He greatly improved agriculture, and encouraged industry and other internal developments. His government was the most efficient bureaucracy in Europe. It is no wonder that education, also, made great progress under this master mind.

Frederick's efforts to reform education. Cynic though he was, Frederick believed it easier to rule an enlightened, trained, and industrious people than an ignorant and incapable nation of serfs. With rare insight and breadth of vision, he availed himself of the expert assistance of four great leaders: Hecker, the pietist pastor and educator; Felbiger, an Augustinian monk of Silesia; von Rochow, nobleman, philanthropist, and educational reformer; and von Zedlitz, the great bureaucratic organizer, Frederick's minister of justice and culture.

Hecker and the school law of 1763. As already stated, Hecker, who was trained under Francke, was the promoter of the *Realschule* movement and the training of teachers in Germany. In 1739 he became preacher at Trinity Church in Berlin; and some years later he opened, in connection with the church, the first seminary in Germany for the training of schoolmasters for elementary schools. This institution received the heartiest commendation from Frederick, who decreed that no teachers were to be appointed in his private domains unless they had received their training in Hecker's seminary. Furthermore, Frederick directed attention to this school on every occasion. A number of normal schools, following the example of this institution, were established in various parts of Germany. At the direction of his king, Hecker wrote the general code of regulations for rural schools, which Frederick promulgated in 1763.

This law was the first educational code for the entire Kingdom of Prussia, and forms the basis upon which later *Volksschule* legislation was built. From the following statement of its purpose, one sees clearly that the interests of religion and government joined hands in its enactment: [8]

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[8] Nohle, E., "History of the German School System," in *Report of the United States Commissioner of Education* (1897–1898), Vol. I, page 54.

> The law was issued in order to obviate the extremely dangerous, and, to Christians, unbecoming ignorance, and to prepare by instruction and training in school more skillful and better subjects for the future.

The law is elaborate in detail and touches almost every important subject of school organization. Compulsory attendance (*Schulpflichtigkeit*) was again decreed and more fully defined for both winter and summer. Parents and guardians were subjected to a fine in case they did not send their children to school regularly. Children were due to attend school from the fifth to the thirteenth year, or until they had learned the principles of Christianity and could read and write well. They were required to pass an examination on the textbooks authorized by the church consistory. A carefully devised system of child accounting was introduced. Supervision was left in the hands of the local pastors, whose duty it was to visit the schools twice every week. The church superintendents and inspectors were to visit and inspect the school once a year and to make a report on its condition. The tuition fee for the poor was to be paid by local, civil, or church authorities. Definite school hours were prescribed.

The real purpose of the school may be judged from the curriculum, which consisted of religion, reading, writing, spelling, and a small amount of ciphering in the upper class. The instruction in religion was laid down in some detail. It comprehended systematic instruction in catechism, Bible instruction and drill, Biblical history, Christian doctrine, and church music.

Teachers were required to obtain a license to teach, and the qualifications were raised. Good character was demanded of the teachers. From the following statement, considerable insight into the condition of the profession may be obtained:[9]

> All teachers are forbidden to keep tavern, to sell beer or wine, to engage in any other occupation by which their labor may be hindered or the children lured by their example into habits of idleness and dissipation, such as hanging around taverns, or making music at dinners and balls, which is prohibited under high fine and punishment.

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[9] Barnard, Henry, *German Teachers and Educators,* p. 595. Hartford, Brown & Gross, 1878.

No teacher could be employed except with the approval of the inspector. In no other state was such a lofty standard definitely set up; but on account of too many adverse conditions it could not be attained. Frederick himself, in his later days, was obliged to fall short by placing his invalided, and often ignorant, soldiers in charge of the schools.

What was thus instituted in Prussia was also attempted, under the leadership of Felbiger, in the newly acquired provinces of Silesia. Here the population was Catholic, and certain modifications of the standards had to be made, but, in general, the school law was quite similar to that of Prussia. Felbiger was later employed by Maria Theresa, Empress of Austria, to put into operation similar reforms in her domain.

It is easy to overrate the importance of Frederick's interest in education, for he promised more than he actually performed. Of education for the masses, he did not expect much: "In the open country it is sufficient if they learn to read and write a little; if they know too much they will go to the towns and become secretaries and such like." Moreover, he had no high regard for the value of secondary and university education. He was most interested in the training school for teachers and in a military school for young nobles.

The new Humanism. The most significant results for the progress of education in Germany came from the introduction of the German mind to the spirit of classical Greece, as expressed in its art, literature, and philosophy. The older Humanism had simmered down to the study of Latin grammar and Ciceronian phraseology, in the vain expectation of inspiring a new outburst of Ciceronian eloquence. So far as the study of Greek was concerned, early Humanism was content with the Greek New Testament and the usual works of Aristotle. The real beauty and meaning of classical antiquity were not appreciated. But this condition was to undergo a change.

First, Johann Winckelmann (1717–1768) traveled in Italy and wrote a work on Greek sculpture, drawing attention to the wonderful beauty of classical art. This aroused the interest of Lessing (1729–1781) and brought forth the *Laokoön.* These works awakened German students to a new world, a world of beauty and aesthetic value. Soon, the interest was broadened to the intensive study of Greek literature in all its forms—poetry, drama, eloquence, history, and philosophy. Men like Gesner, Ernesti, Hamann, Herder, and many others studied Hellenic antiquity with a zest and interest unknown since the Italian Renaissance. Fortunately they did not spend their time in trying to imitate, but rather drank in the inspiration from this wonderful fountain. They felt within them something of the same spiritual energizing which was the inner cause of the artistic expression of the Greeks. From this great enthusiasm and admiration for classical art sprang a number of important movements.

Creation of German literature. German literature did not exist before the second half of the 18th century. The higher schools of Germany had devoted attention to the formalism of Latin, and had utterly failed to arouse a creative spirit in literature and science. The consequence was that the German tongue still remained largely unformed and a poor instrument of literary expression. Even Frederick the Great wrote only in French, and looked upon German as a rude and uncouth tongue.

Leibnitz, also, enthusiastic as he was for the mother tongue, published his chief works in French. The thought that literature must be something more than the sterile imitation of Latin authors came through the introduction of German literary men to the works of English authors, especially Shakespeare, Milton, Addison, and Pope. It was just at this juncture that German literary leaders came into vitalizing contact with the classical Greek world. Out of this contact sprang the great era of German literature, including the works of Lessing, Herder, Goethe, Schiller, and Humboldt.

The new humanistic ideal of manhood. The old ideals of manhood failed to satisfy the new, higher middle class which was rising in the fatherland. The "other-worldliness" of the Pietists was incompatible with the growth of scientific knowledge and the enrichment of human interests. The cynical sycophants of French society were repulsive to the younger and more serious-minded Germans. The flinty individualism of the natural man, conjured up by Rousseau, was boorish and lacking in grace and humanity; but his doctrine of freedom from the tyranny of conventionality, his defense of sentiment, his love of nature and trust in its unfolding process, won the heartiest approval. Rationalism, considering everything from the standpoint of usefulness, was harsh and mechanical. It banished play, poetry, and joy as a nonsensical waste of time. Even Locke had no place for poetry and music. Rousseau, whose writings met a deeper response in Germany than in France, astonished the Germans by his assertion that reason is no reliable guide for man's conduct, and cannot take the place of "the divine voice of his heart" and conscience. A new ideal of cultured manhood was desired to fill the needs of the young Germans, instinct as they were with fresh but unexpressed life and genius.

Forming or culture. "Forming," or "culture" (*Bildung*), is the new word which, at the close of the 18th century, was in every mouth to designate the new, life ideal that dominated higher education in Germany. It superseded the ideals of the former epochs. Winckelmann had exhibited "the noble simplicity and calm greatness" of Greek art and life. Greek beauty was the spontaneous product of the natural harmony of the Greek spirit. It was like the rhythmic beauty of the movements of the young child that spring naturally and spontaneously from a happy constitution. The new ideal of the German literary class was not a mere imitation of the Greek; but, emulating the Greek spirit, it was the free and natural expression of that which is most ideal in human nature. All-sided, harmonious, spontaneous self-activity, self-discovery, and expression are the characteristics of this new ideal. It aimed at the true, the beautiful, and the good in humanity. Everything man undertakes must have its source in the union of all his powers; everything isolated is bad. To live one's life as an organic, rhythmic whole is the highest end. The forming of a complete personality, adjusted to all sides of human life by the harmonious development of all the powers of the individual, is the ideal. This new cultural objective was most adequately described by Herder in his *Philosophy of the History of Human Culture* (*Philosophie der Geschichte zur Bildung der Menschheit*). This ideal of life was best expressed by the term "culture for humanness" (*Bildung für Humanität*), or "pure humanity" (*reine Menschlichkeit*).

The new ideal had a transforming influence upon German schools, especially upon secondary and higher education. Since their establishment in the 16th century, the Latin schools had failed to receive any new impetus. Their work had long been a deadening drudgery. Admission to the universities was by special examination. The arts or philosophic faculties in the universities were on a low level, largely performing the work which should have been done by the Latin schools. The teachers of the Latin schools were usually young men who were poorly trained and who expected to take up the pastoral office after serving their apprenticeship in teaching. They were not definitely interested in the education of youth. All these conditions were changed by the new spirit of scholarship and literary productivity.

The new Humanism was introduced into the newly founded University of Göttingen, by Johann Mathias Gesner and Christian Gotlob Heyne. Johann August Ernesti promoted the work in Leipzig; and Friedrich August Wolf, in Halle. These men gave thoroughgoing courses in the Greek and Latin languages and literatures. Along with this intensive instruction, they provided some training in the art of teaching. The young men who pursued the new form of training no longer had the pastorate in view, but rather expected to spend their lives teaching in the gymnasiums. The study of philology and literature was pursued for its own sake, independent of theology. The teaching office became better paid; the tenure, life-long; and the post of *Oberlehrer,* as the teacher was called, took its place among the learned professions. The office was raised in respectability, and, as a servant of the state, the *Oberlehrer* ranked with the higher public officials.

The tendency to separate the classical course and the Latin school from the influence of the church was of the greatest moment. It meant that there had arisen a new class of people who were not primarily devoted to the church. Baron von Zedlitz, the great educational leader of the Prussian bureaucracy, introduced the new Humanism into Prussia in 1771. This growing ascendancy of the state over the church came to a head in the famous school law of 1787. This law placed the schools of Prussia under the supreme school board (*Oberschulkollegium*). This act marked the beginning of a new cycle in the organization of state education in Germany.

In the new organization three types of schools were recognized: rural, town, and higher gymnasiums (*Gymnasien*). The first were in the villages and country places; the second, in the towns; and the third, in the larger cities. The last were high-grade classical secondary schools. All schools were now placed under the new central authority. The rural schools were of elementary grade and were modeled after the type conducted by von Rochow on his private estates; the second, after the model of Francke's town school.

The next big step in the standardizing process was the introduction of the school "leaving-examination" (*Abiturienten Prüfung*) for students who completed the classical gymnasium course. All students who passed this difficult test were admitted without further qualification to the universities. As a result of this test the universities dropped their entrance examinations. Those Latin schools that were sufficiently strong to train their students for the "leaving-examination" became classical gymnasiums; those that could not do so remained in a lower rank.

The effects of all these developments upon the universities must not be overlooked. The new training of philologists was in itself stimulating. As the gymnasium raised the standard of work, the universities were relieved of all secondary school work. They were then in a position to devote their full strength to the highest level of scholarship, as found in research and investigation for the discovery of new knowledge. This process gave the arts and science faculties a higher status, equal to the professional faculties of law, medicine, and theology.

State regulation and centralization of all schools was definitely reaffirmed in the general state law (*Allgemeine Landrecht*) of 1794. It provided:[10]

> Schools and universities are state institutions, charged with the instruction of youth in useful information and scientific knowledge. Such institutions may be established only with the knowledge and approval of the State. All public schools and educational institutions are under the supervision of the State and are at all times subject to its examination and inspection.

By these acts, of 1787 and 1794, Prussia effected the transition from the church-state school of the Reformation period to the public school of the 19th century. Teachers became state servants; and civil authorities replaced consistories, church superintendents, and pastors as supervising officers for the schools.

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[10] Kandel, I. L., *History of Secondary Education,* p. 239. Boston, Houghton Mifflin, 1930.

3. Nationalization in Other Continental Countries

Benevolent despots. Similar efforts to establish such national systems of education in other countries were made by various benevolent despots. While they extended state initiative and control generally in Europe, they did not add any reform of great significance. However, one of these benevolent rulers, Charles III of Spain, is of the greatest importance because he promoted education in many parts of America. Then, also, there was the national system of Switzerland, which presented Pestalozzi with the opportunity he long desired to realize his ideas of educational reform. The national setting of the great reformer is not generally realized.

Maria Theresa and school reform in Austria. The Empress Maria Theresa imitated in Austria the educational reforms of her great rival, Frederick of Prussia. She attempted to introduce more centralization of government. This, however, could not be carried out very fully because of the great differences in language, race, and natural and political condition of the peoples of her heterogeneous domains. But she cautiously introduced some reforms in agriculture, education, religion, and finance. The Jesuits were expelled; persecution was restrained; and Felbiger undertook the reform of schools, as he had done for Frederick in Catholic Silesia.

Joseph, the son of Maria Theresa, educated in government by Karl Anton Martini (a disciple of the rationalism of Wolff and a leader of the Enlightenment in Austria), carried on the work begun by his mother. He believed in the doctrines of the Physiocrats, but found difficulty in introducing their policies. He liberated the serfs, favored toleration in religious affairs, and put through numerous reform measures. He likewise held enlightened views on educational reform. He proposed to consolidate the Austrian universities with the intermediate and primary schools, into a unitary system administered as a department of the government. The curriculum was revised, and the teachers became civil servants.

The system was strongly paternalistic. The press, however, was censored, and foreign periodicals were excluded.

Reform in Sweden and Baden. Gustavus III of Sweden, a friend of Mirabeau, put into operation a number of principles of the Physiocrats. At his request, Mercier de la Rivière, one of the leading Physiocrats, published his work *De l'Instruction Publique* (1775).

Charles Frederick of Baden (*r.* 1748–1816) was in regular communication with Mirabeau and Dupont de Nemours. He was the best example of a despot who put into operation the tenets of these Physiocrats. He believed that poor peasants make a poor kingdom and that, therefore, serfdom is not only unjust but economically unsound and bad. Under his application of the principles of these economic doctrines, Baden became one of the most prosperous and enlightened states.

Charles III and educational reform in Spain and America. Charles III of Spain (*r.* 1759–1788) received his early training under the influence of the French *Philosophes* and *Economistes.* He belonged to the new type of monarchs, and was noted for honesty, conscientiousness, and deep interest in his responsibilities. He was one of the best examples of the enlightened prince. He expelled the Jesuits, curbed the power of the church and Inquisition, redressed political grievances, gave new encouragement to science and literature, and revived trade and industry.

In education he initiated three efforts: (1) an experiment in a physiocratic utopia in Spain; (2) the general reform of education in Spain; and (3) the reëstablishment of education throughout the Spanish possessions in the New World.

Following the doctrines of the Physiocrats, he promoted an experiment in agricultural colonies in Spain. These were planned to be communities in which priests and monks would be excluded, and simple and industrious farmers would till the soil and live happily together under a constitution based entirely upon the laws of nature. The experiment, however, did not meet with success, and was finally abandoned.

Under the control of the Roman Church, instruction in Spain had long been sadly neglected. Charles planned to take education entirely out of the hands of the clergy and to make it a function of the civil government. He effected marked reforms in university education, professional training, and in the establishment of schools. He required examinations of all candidates who wished appointments as teachers in the state-supported schools.

Our greatest interest centers in his efforts to promote education in America. He attempted to stimulate Spanish colonization by offering royal subvention to settlers. In 1771, he undertook to establish a system of schools in Louisiana, which at the time was a part of his domain in the New World. He sent a "director" and three teachers, under contract, to New Orleans to conduct a school. The French inhabitants did not relish these Spanish instructors; yet the school remained in existence for some time. It is held that this "director" was the earliest example of the city superintendent in an American school system.[11] But this view overlooks the work of Michael Schlatter as superintendent of charity schools in Pennsylvania some years earlier.

Charles III also planted education in other parts of America. He attempted colonization in California, in accordance with physiocratic ideas. In these colonies he promoted schools; owing to special conditions, the educational activities were carried on by the Franciscan Fathers. In 1784, Father Lazuen introduced the schools wherein religion, reading, writing, and Spanish were taught. Every boy was taught some trade and girls also received instruction. By royal order, schools were a regular feature of every California mission. In 1785, the Franciscans opened a school at St. Augustine, in Florida, and Charles supplied the necessary funds.

Thus, Charles' educational interest had a special significance for our country. Moreover, even before these last developments, he had issued a royal order looking to the establishment and maintenance of schools everywhere in Spanish America at public expense. It is true that little was accomplished, but this was due to unfavorable conditions and not to lack of interest on the part of Charles.

National life and education in Switzerland. During the middle of the 17th century a close connection was formed between German and Swiss literatures. J. J. Bodmer and

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[11] Noble, Stuart, "Early School Superintendents in New Orleans," in *Journal of Educational Research,* November 1931, pp. 274–279. Public School Publishing Company, Bloomington, Ill.

J. J. Breitinger, of the College of Zurich, were interested in English literature and led the way to a higher order of literary production in the German tongue. Zurich became the center of a new life which gradually regenerated the whole Swiss people. In 1758, Franz Urs Balthasar, of Lucerne, published *The Patriotic Dreams of a Confederate of a way to rejuvenate the old Confederation,* recommending the creation of a national institute of education. Inspired by his work, a group of zealous patriots formed the *Helvetic Society,* in 1762. Among the members were Bodmer, the literary leader; Gessner, the Swiss Poet; and Iselin, a nobleman-philanthropist. Among the younger set were Lavater, a poet, and the youth Pestalozzi. These men opposed the tyranny of the oligarchical party in the various cantons, and labored for liberty, fraternity, and justice. The society represented, moreover, a growing desire for the union of the cantons in a central government. But foremost among the activities of the group were its efforts on behalf of the improvement of schools, which was the early inspiration of the youthful Pestalozzi.

The French Revolution struck a responsive chord in the hearts of a great many Swiss of all levels, even of many of the patrician class. The French craftily fanned the flames of revolt among the discontented. At this time Switzerland was a loose confederation of eighteen small sovereign and twenty-seven semi-independent states. In 1798, the Helvetic Constitution was adopted, and a unified government called the *Swiss Directorate,* like that of France, was established.

Internal progress immediately claimed the attention of the new central government.[12]

> A clause of the Helvetic Constitution defines enlightenment as the chief foundation of public welfare, speaking of it as preferable to all outward prosperity.

Albrecht Stapfer, who was made minister of arts and sciences, set himself with untiring endeavor to improve the educational system. He began by requiring all the cantons to send in reports of the condition of their public schools, and also suggestions as to improvements. A system of federal regulations was drawn up, uniting all scientific and cultural institutions into a single organization. Local councils and inspectors were authorized, and in every canton a seminary was to be established for the training of teachers. At the request of Stapfer, Pestalozzi began to publish a paper on educational reform. Such was the national framework in which the simple-hearted Pestalozzi was to become the most renowned world educational figure. Stapfer first placed him at the head of a government orphanage at Stanz, where he began his great work. Later the Helvetic government granted him the castle at Burgdorf, where he conducted a combination of private boarding school and teachers' training college. Here he was assisted and supported by the *Society of the Friends of Education,* organized by Stapfer.

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[12] Dändliker, Karl, *A Short History of Switzerland,* p. 225. New York, Macmillan, 1899.

4. The Reform Movement and Education in England

England in 1750. At the middle of the 18th century, Great Britain stood at the threshold of the third revolution of her modern history. The Revolution of 1688 had placed the government in the hands of Parliament, but that body was not nearly so representative of the British people as it became in the 19th century. The franchise and the right to hold office were limited by the imposition of religious tests and by property qualifications for eligibility to office and for the exercise of the franchise.

Religious leadership in Great Britain was, at this time, at a rather low ebb. The common people seem to have remained, regarding faith and practice, much as they had been in the 17th century, and much as they were to be in the 19th. Rationalism had, however, affected the theological views of the educated classes. Scepticism and religious indifference were widespread among the clergy, both of the Established Church and of the Protestant dissenting sects. It must not be supposed, however, that all leaders had lost sympathy with ancient practices and beliefs. Many intellectual leaders were deeply attached to the Established Church, and among the clergy there were many strongly evangelical in faith and conduct. An important factor in the whole situation was the general concern felt respecting the neglect of the educational, moral, and religious needs of the poor.

Out of these diverse and conflicting conditions in English life and thought, two important movements were to arise. The first of these was Protestant evangelicalism, which found expression in the Methodist Church and profoundly affected other Protestant bodies. The other was a liberalism which, instead of taking the form of an attack on religion, attempted to formulate a system of Christian theology consistent with the view of the world as a single natural order—a world in which exceptions to natural law do not take place. The second movement influenced the various older sects, and gave rise to Unitarianism.

During this period the wealth, prestige, and power of the British nation were rapidly increasing. The union with Scotland was stable, and Jacobism ceased to threaten after 1745. British power and influence in Europe, Asia, and North America were growing steadily, and rapidly building a vast colonial empire. The population of England, which was five millions in 1700, had grown to six and a half millions in 1750; to nine millions in 1800; and to eighteen millions in 1850. This enormous increase took place during the very time that Great Britain was populating her colonies in North America.

In spite of the fact that emigration was drawing off much of the surplus population of the British Isles during the 18th century, the problem of the dependent classes remained acute. Methods of farming and stock-raising were greatly improved during the century. Improved farming led to enclosures and to the consolidation of agricultural lands; consequently, many small tenants, and even small freeholders, lost their holdings. At the middle of the century, domestic manufactories sustained a great number of independent artisans; but the Industrial Revolution was soon to upset the cottage industries, and to drive the small, independent proprietor-artisans out of the textile trades.

England possessed in the 18th century a literature of the first rank. There had been gradually created, too, an enormous reading public. To cater to the needs of this public, a mass of pamphlets, tracts, and popular books was produced, and the circulating library developed. The first English newspaper had made its appearance late in the 17th century, and before the middle of the next century, pamphlets and newspapers had become important agencies for propaganda and information.

The universities occupied at this time a low place in national life and in the esteem of leading men, though the progress made at Cambridge in mathematics seems to have earned that institution a larger measure of popular appreciation than it actually received. The grammar schools had made no real progress for nearly two centuries. They had been affected by the decline of Latin as a spoken language, and had modified the emphasis and methods of their teaching to meet the new status of the language; but these changes did not meet the situation. In the non-conformist academies, Realism dominated the curriculum and methods of instruction. The academies had passed through a first period in which they were but little different from the Latin grammar schools; and through a second, in which science, modern history, and modern languages and literature made their way into the curriculum. In the second half of the 18th century they passed through their third, and concluding, cycle; and the movement of which they were the expression was drawn into the main currents of British education.

I. Industrial, Social, and Political Movements

The Industrial Revolution. During the second half of the 18th century there were perfected a series of inventions that were to transform industrial life everywhere. James Watt, by perfecting the steam engine, made available an almost inexhaustible source of cheap power, which had the advantage of being comparatively easy to supply wherever it was needed; the steam engine was soon adapted for travel by land and sea. Another series of inventions made possible the spinning and weaving of cloth by machinery, and Whitney's cotton gin reduced the cost of the chief raw material used by the textile trades. The use of coal in the smelting of iron led to the development of processes by which iron and steel were made available at low cost and in almost unlimited quantities.

The cottage manufactories had been conducted by independent operators, who employed little capital and produced in small quantities. These proprietor-artisans employed the members of their own families, and an occasional apprentice or hired hand. Many of these artisans lived in the country. In their own cottages, or at least on their own grounds, they received raw material from the farmer who had produced it, manufactured it into cloth, and frequently sold the finished product to the consumer. The development of machine manufacturing swept away these hand industries. Cloth came to be manufactured in factories; the building of factories led to the growth of cities; the independent artisan and the yeoman farmer lost their places in English life; and the rural economy which had given character and direction to English civilization from the Reformation was destroyed.

Social reforms. Owners of coal mines and of textile factories found it profitable to employ women and children. Some as young as five or six years of age worked in factories and mines; workers of eight or nine years of age were numerous. Village and rural life had long furnished to laborers the training generally regarded as best for their condition. The parish church, the associations of farm and shop, and the family, the members of which worked together much of the time, were the chief agencies by which working people were trained. These institutions were transformed by the Industrial Revolution. The training offered under the older system by the shop was completely disrupted: children working in factories were no longer apprentices but rather laborers. Parents employed in shop or mine were separated from each other and from their children much of the time, and had little opportunity to teach them. The parishes of the manufacturing centers bore little resemblance to rural parishes.

At the beginning of the 19th century the condition of the laborers and particularly of the laboring children of the poor was miserable in the extreme. Workmen were forbidden to organize for the purpose of forcing better wages and living conditions. Apprenticeship statutes were made legal grounds for holding children in slavery. However, after the 19th century witnessed a long battle for legal protection of the laboring poor, conditions began to improve.

A series of factory acts, the first of which was carried in Parliament in 1802, placed some safeguards about women and children in industry. The first of these acts reveals how horrible were the conditions surrounding childhood. By its terms the binding out for labor of children less than nine years old was prohibited. It required that some elementary measures be taken to improve sanitary conditions; that separate dormitories be provided for males and females; and that apprentices be provided with at least one new suit of clothing a year, and be instructed in religion and in the fundamental branches of knowledge. Night labor of apprentices was forbidden, and their working hours limited to twelve a day. These acts are of especial importance to the student of education because they definitely gave to the officers of the state, control of the lives and training of children, and because they constituted a recognition that children have rights to care, food, education, and protection against cruelty and debauchery. Abuse and neglect of children gradually came to be considered an offense against the criminal law.

The humanitarianism that contributed to bring about legislation designed to protect children found expression, too, in efforts to remove or mitigate suffering in other quarters. As early as the late 17th century, Quakers in England and America taught that slavery is contrary to Christian principles. Before the War of American Independence, influential persons on both sides of the Atlantic rose in open opposition to the slave trade; early in the 19th century, the forces working for its abolition won a sweeping victory in the British Parliament. The century was not far advanced before slavery was abolished in British territory. During this period, too, there was inaugurated an attempt to reform the penal code and to improve prisons.

Political reforms. Although Great Britain was, at the middle of the 18th century, governed by Parliament, she was still under the ancient regime. Parliament was controlled by a small minority of the people, and the remainder were excluded from any real share in the conduct of government. Everywhere, political domination by a privileged minority was bitterly resented: in North America, the quarrel led to the Revolution and to separation; in Great Britain, the demands for parliamentary reform were met by granting to the middle classes a full share in the control of the government. This reform in Great Britain was effected gradually, and involved changes, both in the attitude of the British people toward their government, and in governmental machinery. The national spirit was quickened, and leaders in government recognized the political importance of finance and industry. Seats in the House of Commons were so redistributed that the body became representative of the people, rather than of special groups. The political disabilities of Protestant dissenters, Jews, and Roman Catholics were removed, and the franchise was extended to all of the middle class.

The religious revival. Among the forces which brought about the humanitarian reforms of this period was the great religious revival which began in the second quarter of the century with a group of young Oxford students and swept over England and North America. The dominant figure in the revival was John Wesley. A brother, Charles Wesley, was its hymn writer; and Whitfield was one of its most persuasive preachers. These men preached to great crowds, who heard them in street, field, and churchyard, as well as in church assemblies.

The movement appealed especially to the poor; it was antisacerdotal and laid much stress upon the religious experiences of individuals. Meetings were held at which the humblest were urged to "testify" as to their consciousness of God's presence in their lives and of their knowledge of Him, and to lead the group in ecstatic prayers; public confession of sin was made; and women and unordained persons preached and led public worship. Congregational singing, the weeping of the penitent and the shouts of those swept to heights of rapture, and the fervent pleading of the ministers marked the public worship of the enthusiasts. These practices shocked the leaders of the Anglican and more powerful dissenting churches, but they afforded the masses an opportunity for active participation in worship and for expression of their religious convictions and feelings. The bare ritual of the extreme Calvinists and their emphasis upon preaching afforded little outlet for the emotions or for active participation in worship by the congregations; unordained persons were auditors only. To many who craved an opportunity for spontaneous expression of religious feeling, the ritual of the Anglican Church seemed formal. While the appeal of the enthusiasts was principally to groups neglected by established ecclesiastical organizations, many of the well-to-do were also attracted by the fervor and unaffected piety of the leaders of the movement. Calvinists, however, were repelled not only by the enthusiasm of the revival, but by the Arianism of Wesley.

Denied free growth within organized Christianity, the *Methodists,* as they had come to be called, organized churches of their own, which grew with astonishing rapidity. The organizing genius of Wesley and the fervor of early Methodist leaders forged an agency marvelously adapted for reaching masses of people not served by entrenched institutions. Local preachers were ordained, and worked with their own hands for their support and preached the Gospel to the poor without price. Circuit riders missionized sparsely settled regions. These preachers were, moreover, of the people; they spoke a language that the people understood, and their services were of a type into which all could enter.

The methods and theology of the Methodists affected the denominations which opposed them. Methodism largely gave direction to Protestantism in England and America during the 19th century, as Calvinism had in the 17th. It gave to moral reforms religious sanction and popular support that could never have been attached to them without its aid. Campaigns in the interest of popular education, the abolition of slavery, temperance, and the emancipation of women drew much of their strength from the evangelical revival. The Baptist and Methodist Churches have been, especially in the United States, important agencies through which the masses of people could be reached and the popular will could find expression. No other ecclesiastical organizations had ever offered membership more freely, nor been more responsive to the will of their members.

II. Science, Philosophy, and Literature

Intellectual achievements of the period. Scholarship made great strides between 1750 and 1832. David Hume (1711–1776), in metaphysics; Sir William Blackstone (1723–1780), in law; Jeremy Bentham (1748–1832), in political science; Edward Gibbon (1737–1794), in history; and Adam Smith (1723–1790), in economics—all outstanding figures in British thought—flourished during this time. Moreover, experimental science fully demonstrated its worth and took its place with the older disciplines in the universities; Priestley's achievement in isolating oxygen was but one among a number of notable discoveries. Richard Price did the work in actuarial mathematics that won him the title of the "father of life insurance." In the late 18th century, too, scholarly journals which have served as mediums of publication to the present time were founded.

These times produced a great array of writers of high rank. Sterne, Goldsmith, Fielding, Smollett, Jane Austen, and Scott have few superiors among novelists. In Burns, Shelley, Keats, Byron, Wordsworth, and Coleridge, the age had a wealth of poetic genius. Samuel Johnson, Charles Lamb, William Hazlitt, and R. B. Sheridan did enduring work in their various fields.

The work in this period of literary men, scientists, and engineers had a profound effect upon the course of education. Materials far too significant to be neglected by higher schools and universities were created, and curricula were expanded to include them.

III. THEORY OF EDUCATION

Interest in theory of education. Although Great Britain produced between 1750 and 1832 no treatise on education worthy of being ranked with contemporary works by German, French, and Swiss writers, there was a general interest in the subject, and the popular point of view regarding education changed in essential respects. The works of Rousseau, Basedow, and Pestalozzi were widely read and discussed. Priestley's *Essay on a Course of Liberal Education for Civil and Active Life* (1765), which reflects the point of view of the dissenting academies, exercised considerable influence in America, as well as in Great Britain. Leading philosophers concerned themselves with the grounds of popular education. Blackstone, Adam Smith, and Jeremy Bentham threw their support to the doctrine that the state should promote popular education. Blackstone, writing in 1765, contended: [13]

> As Puffendorf very well observes, it is not easy to imagine or allow, that a parent has conferred any considerable bene-

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[13] Blackstone, Sir William, *Commentaries,* Book I, Chap. 16. Oxford, Clarendon Press, 1773.

> fit on his child, by bringing him into the world; if he afterwards entirely neglects his culture and education, and suffers him to grow up like a mere beast, to lead a life useless to others, and shameful to himself. Yet the municipal laws of most countries seem to be defective in this point, by not constraining the parent to bestow proper education upon his children. Perhaps they thought it punishment enough to leave the parent, who neglects the instruction of his family, to labour under those griefs and inconveniences, which his family, so uninstructed, will be sure to bring upon him.

Adam Smith was too thoroughly committed to the doctrine that every man should manage his own affairs, to advocate complete direction of education by the state; but he still argued that the state should make universal education possible. He declared: [14]

> For a very small expense the public can facilitate, can encourage, and can even impose upon almost the whole body of the people, the necessity of acquiring those essential parts of education.
>
> The public can facilitate this acquisition by establishing in every parish or district a little school, where children may be taught for a reward so moderate, that even a common labourer may afford it; the master being partly, but not wholly, paid by the public; because if he was wholly, or even principally paid by it, he would soon learn to neglect his business. In Scotland the establishment of such parish schools has taught almost the whole common people to read, and a very great portion of them to write and account.

Utilitarianism. In some respects the most important contribution to the theory of education made by a British philosopher during the 18th century was the system of ethics known as *utilitarianism.* Utilitarians reiterated the demand made by Bacon, Comenius, Locke, and Rousseau, that care should be exercised to teach what is useful, and only what is useful. Joseph Priestley, in his *Essay on Government,* employed the phrase "the greatest good of the greatest number." In another connection he said: "The chief and proper object of education is not to form a shining and popular character, but a useful one, useful according to the sphere in which a person lives." Jeremy Bentham seized upon the principle of utility and developed it into a system of ethics. Utilitarianism made an immediate appeal to liberals in all parts of the English-speaking world.

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[14] Smith, Adam, *The Wealth of Nations,* Vol. III, Book V, Chap. 1, p. 184. London, T. Cadell and W. Davies, 1805.

It is an easy system to understand—far too easy to be a real account of ethical phenomena—and this false simplicity commended it to persons in revolt against obscurantism. Its principles are democratic and caught the ear of persons in revolt against special privilege. It is an empirical system, and so was suited to the temper of an age inclined to naturalism. The principle of utility commended itself powerfully to educational reformers. Before the century closed, the American Philosophical Society had offered a prize for a plan of a system of education suited to the republican institutions of the United States and "instituted and conducted . . . on principles of the most extensive utility." Franklin and Jefferson insisted that considerations of utility should be taken into account in planning the offerings of schools and universities; but neither cheapened the principle as some enthusiasts have done.

The Edgeworths. The leaders of the 18th-century reform in theory of teaching were, without exception, natives of the Continent of Europe; but Great Britain had, none the less, a significant part in it. A year before the founding, at Dessau, of Basedow's *Philanthropinum,* the question of the place of play in education was exciting spirited discussion in England. Mrs. Barbauld brought out, in 1781, for use in the school which she and her husband conducted, her *Hymns in Prose,* a series of simple nature studies for children. This book was planned to present information to children in a way that would hold their interest without putting too great a strain upon attention. It was the first of many books of the sort in English. Richard Lovell Edgeworth and his daughter, Maria Edgeworth, were among the most influential writers of English who contributed to the literature of the revolution in methods of teaching.

Edgeworth, after having at first enthusiastically accepted the pedagogical doctrines of Rousseau and later opposed them.

at length formed an eclectic pedagogical system, in which were incorporated certain of Rousseau's principles and older doctrines respecting habit and moral discipline. He wrote a didactic story for children, *Harry and Lucy,* into which he introduced elementary information respecting science, literature, and conduct. Thomas Day, a friend of Edgeworth, projected his *Sanford and Merton*—a book that enjoyed a long and extensive popularity—as a supplement to *Harry and Lucy.* Maria Edgeworth included her father's tale in her *Early Lessons.* Father and daughter brought out, in 1798, *Practical Education,* a series of essays in which it is easy to trace the influence of Rousseau. Edgeworth, in addition to his contributions to the literature of education, must be reckoned one of the first in Great Britain to advocate the establishment of a system of graded schools under state supervision.

Maria Edgeworth's books for children—*Parent's Assistant, Early Lessons,* and *Popular Tales*—enjoyed a popularity that extended to all parts of Great Britain and the United States and that continued for decades. A host of imitators exploited the vein which she and her English and German contemporaries had opened. The methods and spirit of these reformers affected schools throughout the English-speaking world.

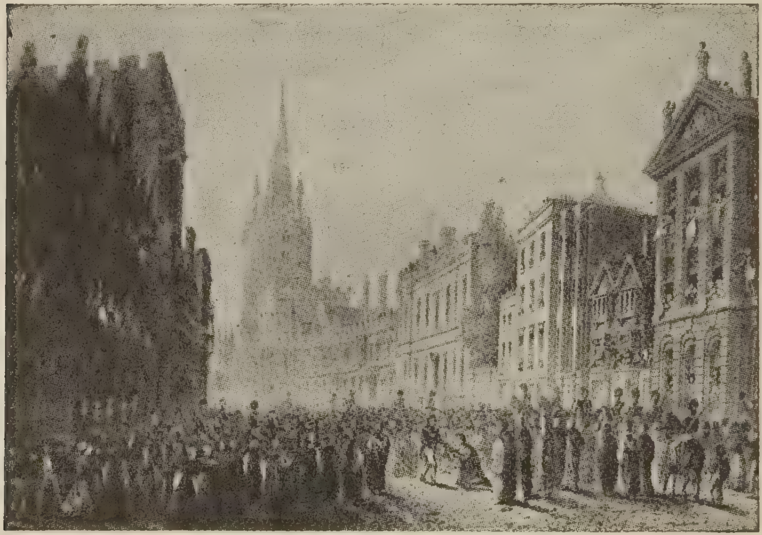
IV. School and University Reform

Dissenting academies. Early in the 18th century it became apparent to leaders among non-conformist educators that the aims and programs of study of the Latin grammar schools and British universities were too limited in scope, and that English should be made the language of higher instruction. Dr. Phillip Doddridge, principal of the academy at Northampton from 1729 until 1751, had lectures delivered in English; threw his academy open to boys preparing for the trades, for business, and for the professions other than the ministry; and broadened the course of study. French, trigonometry, and science were among the subjects introduced with a view to adapting the curriculum to the needs of youths who looked forward to careers as merchants, ships' officers, manufacturers, and physicians.

Joseph Priestley did more perhaps than any other man to modernize the curriculum of the dissenting academies. He was from 1761 until 1767 a lecturer in the academy at Warrington—an institution which trained ninety-eight students who entered commerce and trade, as against fifty-four who took up divinity, twenty-four who were to practice medicine, and twenty-two who went into law. Priestley believed that a system of education was seriously defective if it took account of the needs of those persons only who planned to enter divinity, law, and medicine. He advocated the study of English literature and grammar, history, chemistry, geography, anatomy, and natural science; and succeeded in introducing these subjects at the academy. The course in natural science at Warrington became noted. Priestley's influence was felt over all of Great Britain and the United States. Noah Webster and Thomas Jefferson corresponded with him.

As the century drew to a close, the dissenting academies began to decline. There were a number of reasons for this. The non-conformist churches which had supported them lost ground. There were acute religious controversies, and the academies, which had been patronized by members of various religious organizations, began to require students to subscribe to creeds, and consequently many were turned away. The Church of England, moreover, had been stirred by the great revival, and pressed the work of its missionary and school activities with such ardor that non-conformists were no longer able to count on the patronage of churchmen as they had done formerly. More important still, the grammar schools and universities had at last been affected by the realistic movement, and the principles and practices for which the academies had struggled so faithfully made their way into the main currents of British education. The academies therefore lost their distinctive place principally because other institutions absorbed most of what was good in them.

University reform. British men of letters found much that was amiss in the English universities in the late 18th century. Oxford, for example, was criticized by Dr. Johnson, Bishop Butler, Adam Smith, Jeremy Bentham, Edward Gibbon, Sir William Hamilton, and Lord Eldon; and their strictures were reinforced by those of less prominent men. The character of the reforms urged by Bishop Conybeare, principal of Exeter, will indicate how serious was the lack of discipline at the most ancient of British universities. Conybeare led a movement for the following reforms: college servants were to be regularly appointed, and the custom of buying places was to be eradicated; lectures were required to be given regularly in logic, rhetoric, and philosophy; fees were to be equalized and pooled; fellows were to be required to work for their pay, and prevented from accumulating an excessive number of college offices. Examinations and disputations had degenerated. Although there were a few conspicuously able lecturers, like Sir William Blackstone, there was a good deal of complaint of the poor quality of the lectures, and of the failure of tutors to do their duty by the undergraduates. There seems to be no doubt that members of the university quite generally neglected their duties. An undergraduate in 1765 at Merton College, Oxford, described the members of his set as "very pleasant, but very idle fellows"; it is certain that his criticism would have fitted most undergraduates at English universities of that time.



Oxford University, 1814, Showing High Street, which Traverses the University District, and St. Mary's, the University Church.

Although idleness and dissipation was found at the universities, sound scholarship and independent thinking were not entirely lacking. The mathematical eminence of Cambridge continued after the death of Sir Isaac Newton, and in 1747 the mathematical tripos was instituted. The king had founded, in 1724, a professorship of modern history at Oxford, and the foundation provided for two lectureships in modern foreign languages. Blackstone's lectures on law had a permanent effect upon the teaching of that subject.

New subjects in the higher curriculum. During the 18th and early 19th centuries, new subjects were introduced into the universities of Europe. Events at the University of Glasgow illustrate this development. In the first half of the 18th century it added chairs of oriental languages, humanity, civil law, medicine, history, and anatomy; and it established, between 1750 and 1832, chairs of astronomy (1760), natural history (1807), surgery (1815), chemistry (1817), botany (1818), and materia medica (1831). Oxford lagged somewhat in adding new subjects; but, although the university was conservative in adding new chairs, it did increase its offering steadily. In 1825 the proposal to establish there a political economy chair met with cordial acceptance; Oxford authorities declared that they anticipated "the happiest effects" from the inclusion of new subjects in the list of academic studies.

However, in Great Britain, science was chiefly promoted by the work of individuals having no connection with universities. Private experimenters were doing some of the best work in chemistry, physics, botany, and zoölogy. The Royal Society fostered research; moreover, the genius of English education was disciplinary rather than creative. (The subject is further discussed in Chapter XIX.)

One of the most important developments of this period was the rise of English grammar to popularity as a school subject. English grammars for the use of foreigners and for advanced students had been issued before the 18th century; two or three obscure works were issued early in this century; and in 1765, Robert Lowthe brought out a school text in the subject, *Introduction to English Grammar,* which was followed almost immediately by an English grammar by Joseph Priestley. The texts of Lowthe and Priestley were completely eclipsed in popularity by Lindley Murray's *English Grammar,* which, as complete text and abridgment, ran through more than one hundred and seventy editions.

V. POPULAR EDUCATION THROUGH PHILANTHROPIC EFFORTS

Sunday schools. The humanitarians of the late 18th century found that the Industrial Revolution had created a number of new and distressing problems. Ancient agencies which had long educated, controlled, and cared for the lower classes had been disrupted. Children in manufacturing cities and mining districts were growing up in an environment the demands of which they were not being prepared to meet; the problem of preparing them had been rendered immeasurably difficult because there were no schools for them and because many very young children were employed in mines and factories. A number of individuals in England conceived the idea that schools might be supplied on Sunday, so that employed children and adults could receive instruction without loss of wages. Such schools, they believed, might be conducted at very little cost. In 1780, Robert Raikes, a publisher in Gloucester, England, opened a school on Sunday which he placed under the charge of a paid teacher. He gave wide publicity to the Sunday-school idea, and soon schools of this type were widely distributed over the United Kingdom and America. Five years after Raikes opened his school, the *Society for the Establishment and Support of Sunday Schools throughout the Kingdom* was organized, with a membership in which were included both churchmen and non-conformists.

At first the Sunday schools were simply charity schools, the sessions of which were held on Sunday. In these Sunday schools, reading, writing, arithmetic, spelling, hymns, catechism, and Scripture were taught. Most of them depended upon volunteer teachers who served without pay, but in some schools, as in the one established by Raikes, the teachers received a small stipend. By far the most significant of these schools were those of the Wesleyans and the Baptists, which were, for the most part, conducted by volunteer workers. In them the poor were neither patronized, pauperized, nor taught to think of themselves as permanently inferior. Mr. Trevelyan writes of these dissenting congregations: [15]

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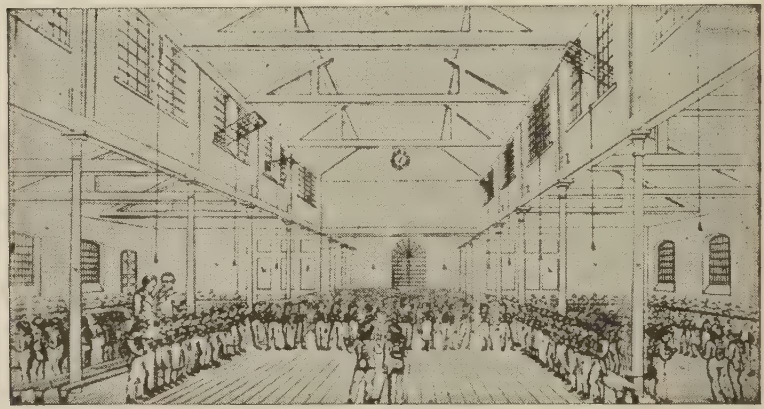
[15] Trevelyan, G. M., *British History in the Ninteenth Century* (1782–1901), p. 160. London, Longmans, Green and Company, 1922.

> Many of the more self-respecting of the new proletariat found in the Baptist or Wesleyan chapel the opportunity for the development of talents and the gratification of instincts that were denied expression elsewhere. The close and enthusiastic study of the Bible educated the imagination. . . . And in the chapel life working men first learnt to speak and to organize, to persuade and to trust their fellows. Much effort that soon afterwards went into political, trade union and co-operative activities, was then devoted to the chapel community. It was in Little Bethel that many of the working-class leaders were trained. In a world made almost intolerable by avarice and oppression, here was a refuge where men and things were taken up aloft and judged by spiritual and moral standards that forbade either rage or despair.

In the course of time other agencies supplied secular instruction, and the work of the Sunday schools was restricted to the teaching of religion. The secular Sunday school, however, served a useful purpose in providing instruction to a great number of poor people, and in stimulating interest in universal education.

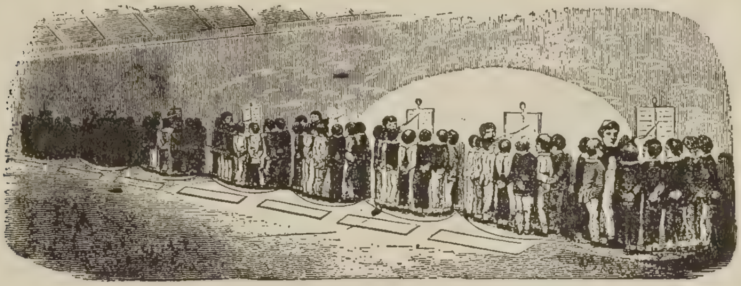
Great societies and monitorial schools. Although the Society for Promoting Christian Knowledge and many less prominent charitable organizations collected great sums of money and educated in their schools a vast army of children, there were in England large numbers of children who had no real opportunity to attend any elementary school. In the 18th century, humanitarian reformers pointed out that it is to the advantage of society to bring every child into some school for at least a few months of his life; but even those who advocated schooling for all were appalled by the expense of the undertaking they were proposing. Although there were some who felt that the Sunday school offered a way to educate the poor at very little cost, most people saw that the Sunday school was not adequate for such an undertaking. Another difficulty faced by friends of universal education was the lack of efficient teachers. At length there developed a scheme of school organization planned to furnish elementary training at very low cost, and to meet the problem of supplying effective instruction in a short time. The agency that was to work this pedagogical miracle was the *monitorial school.*

Late in the 18th century, the Reverend Andrew Bell—a clergyman of the Church of England, and also an army chaplain and director of an orphanage at Madras, India—conceived the idea of so organizing schools that most of the actual teaching would be done by the older pupils. The practice of having pupils teach one another is very ancient; however, Bell introduced a plan of organization adapted from the organization of a modern army, and it was this plan that was the distinctive feature of his system. In his school the student-teachers, called *monitors,* corresponded to the subalterns and non-commissioned officers of a military unit. Bell's plan had the very real merit of introducing discipline into elementary schools at a time when it was lacking, and of putting emphasis upon the need of system in managing and conducting classes. A little later, Joseph Lancaster, a Quaker youth in charge of a school for young children, conceived a similar plan of organization for schools. Bell and Lancaster were extremely resourceful in inventing teaching methods and devices suited to their plans. Charts, sand-tables, and the practice of dictating exercises were significant innovations which they promoted.

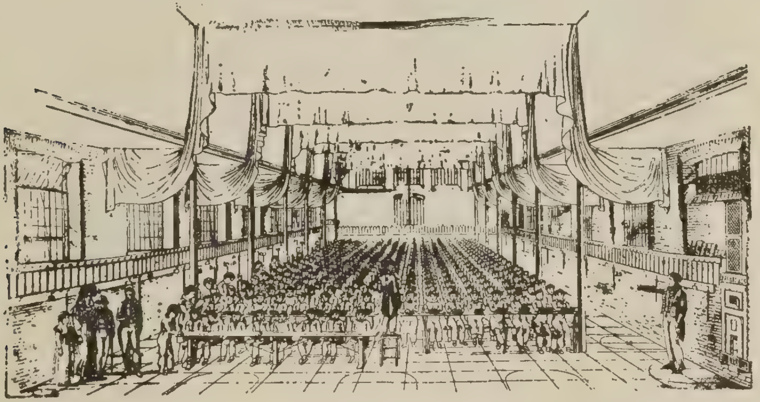


THE SCHOOL AT BALDWIN'S GARDENS, ORGANIZED ON THE MADRAS PLAN.

Lancaster was granted an interview with the king, who was pleased with his work, commended it to members of his family, and made a subscription for its support. Bell rose to high station in the Church of England, and leading churchmen organized the *National Society for Promoting the Education of the Poor in the Principles of the Established Church throughout England and Wales* (1811), which established and conducted schools on Bell's principles and under his direction. The National Society took over much of the work of the S. P. C. K. Non-conformists organized the *British and Foreign School Society,* which sponsored schools on Lancasterian principles. These two great societies were for a long time the principal agencies through which parliamentary grants to education were administered. The two societies were bitter rivals. Supporters of the National Society saw

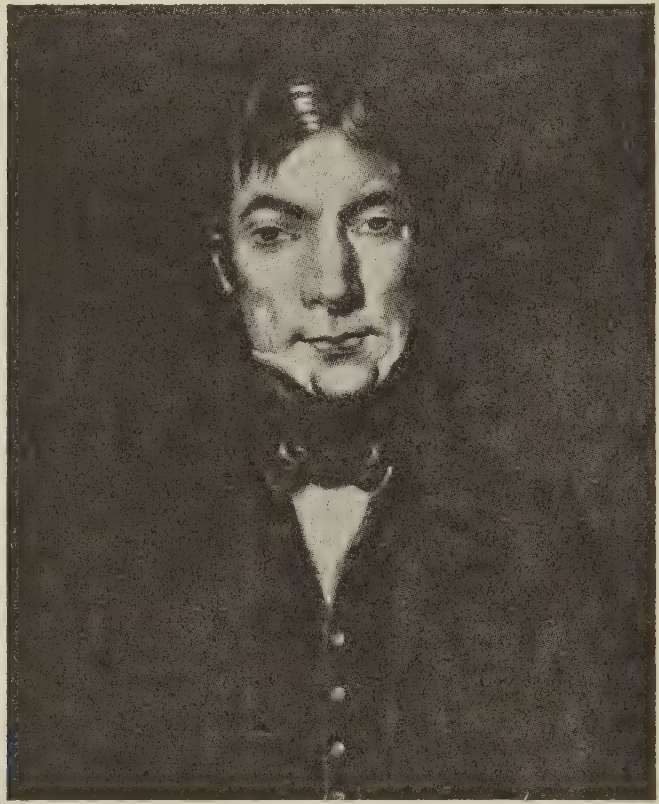


A MONITORIAL SCHOOL IN OPERATION. FROM A MANUAL OF THE BRITISH AND FOREIGN SCHOOL SOCIETY.



INTERIOR OF THE CENTRAL SCHOOL OF THE BRITISH AND FOREIGN SCHOOL SOCIETY, LONDON.

in the undenominational instruction of the Lancasterians a menace to the foundations of religion and culture; adherents of the British and Foreign School Society were firm in their opposition to the establishment of a state-supported monopoly of elementary education under the control of the Church of England. The problem of the relation of the Church of England to schools has been a vexed question through all its history since the time of Henry VIII.



Robert Owen.

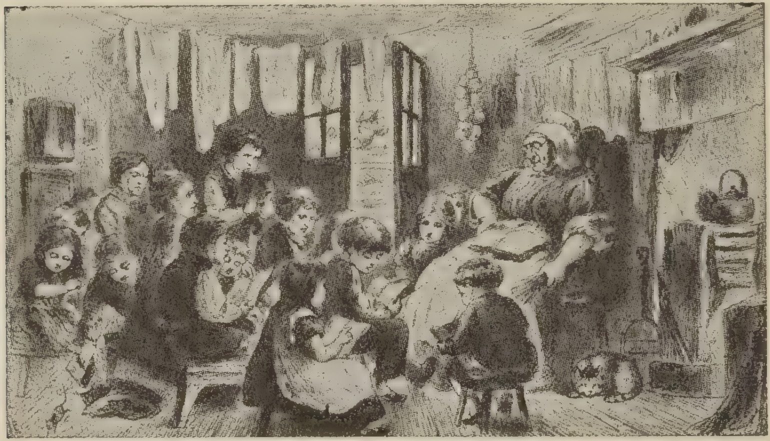
Monitorial schools did not prove to be effective; they owed most of their repute to the fact that the schools which they replaced were so very bad that any system which introduced a measure of order into elementary education was an improvement upon them. These schools, however, were too mechanical; younger pupils had too little contact with well-trained and intelligent instructors; and monitors were deprived of the sort of training they needed and were, in addition, not compensated for their efforts.

Infant schools. Just as the 18th century was coming to a close, New Lanark, near Glasgow, Scotland, became the scene of an exceedingly fruitful experiment in education. Robert Owen (1771–1858), director of large cotton mills at New Lanark, undertook to improve the morals and living conditions of the laboring people of his community; he instituted a paternal government, which enforced temperance and cleanliness, encouraged religious toleration, and provided free education for all children from five to ten years of age.

Owen's school at New Lanark, called *The New Institution,* was conducted on Lancasterian principles. It quickly became famous, and a number of distinguished people became interested in similar infant schools. James Buchanan, teacher in The New Institution, was called to London, where, under the patronage of a group of very eminent liberals in Great Britain, he opened an infant school. Buchanan had neither the training nor the creative ability necessary to qualify him for leadership in a work that was rapidly becoming a movement. He did, however, inspire Samuel Wilderspin to develop new methods of instruction and to popularize infant schools in London. Later, Wilderspin won such a reputation that when, in 1824, the *Infant School Society* was founded, he was chosen its agent. Infant schools were established in great numbers. The British and Foreign School Society, the National Society, and the Irish Commissioners were interested in promoting them. In 1826, the *Glasgow Infant School Society was founded,* and in it David Stow laid the foundation for the important work in teacher training that he was later to do.

Dame schools. Elementary schools taught by women were not unknown in 15th- and 16th-century England. In the early 18th century such schools, known as *dame schools,* became common; until near the close of the 19th century, when publicly aided elementary schools became numerous, they had a conspicuous place in English education. Dame schools were usually taught in the home of the schoolmistress, who divided her time between teaching and her domestic tasks.

In these schools, pupils were taught the Lord's Prayer, the Apostles' Creed, the alphabet, the catechism, and to read easy words. The course of study included little more. Many of the dames were themselves scarcely able to read or write.



A Dame School in London, from 1834 to 1870.

In practically all of these schools, pupils paid a small tuition fee, but De Montmorency notes that "some elementary free schools were for the time being dame schools."[16]

VI. State-Supported Schools in Great Britain

First English compulsory education law. The year 1802 is notable in British history because it marks the first compulsory education law enacted by a parliament of the United Kingdom. This law, entitled "An Act for the Preservation of the Health and Morals of Apprentices and others employed in Cotton and other Mills, and Cotton and other Factories," was referred to earlier. Section 6 of this act stipulated that every apprentice should receive instruction for a part of each working day "for the first four years at least of his or her apprenticeship . . . in the usual hours of work in reading, writing, and arithmetic, or either of them."

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[16] De Montmorency, J. E. G., "Dame Schools—English," in *Cyclopedia of Education,* edited by Paul Monroe, Vol. II, p. 247. New York, The Macmillan Company, 1913.

Teachers were to be paid, and rooms in which instruction was given were to be provided by the masters and mistresses of apprentices. The latter were to receive religious instruction, and were to attend divine worship at least once each week. The law was not adequate to correct the abuses against which it was aimed; Parliament had not as yet grasped the immensity of the problem with which the modern world was confronted.

Unsuccessful efforts to secure public support. Between 1807 and 1830, repeated efforts were made to secure parliamentary aid for elementary schools in Great Britain. The great leaders of these attempts were George Whitbread and Henry Brougham. Their efforts were, at the time, unsuccessful, but the nation was aroused to the need of elementary education for the poor. The work of the champions of state aid for education continued, and, in 1833, parliamentary aid for elementary education was begun. The development of state-aided schools in England will be described in a later chapter of this text.

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CHAPTER XVII

PESTALOZZI AND THE COMMON SCHOOL MOVEMENT

Those who take an interest in debating will find a subject of unusual possibilities in the question whether Rousseau, the vagabond writer of Geneva, or Pestalozzi, the philanthropist of Zurich, has exerted the greater influence upon modern education. Both were dreamers, and both were moved by a deep sympathy for downtrodden men. The one influenced education profoundly through his books, but was a failure as a teacher; the other exerted little power through his writings, but, by his methods of teaching, won the world for universal public education. However, had there been no Rousseau, we probably would never have heard of Pestalozzi. As the former was a model of what a teacher ought not to be, so the life and character of the other form the most inspiring biography that can be studied by anyone interested in education.

No other great historical character can be said to have succeeded so remarkably and failed so miserably. The selfish impulses were seemingly left out of his nature; his altruism was unbounded. "All for others, nothing for himself." Such was the final eulogy of his grateful countrymen. But out of the depth and bitterness of his failures, he somehow succeeded in awakening the modern world, as no other was able to do, to a faith in the school as the supreme instrument for saving man from misery and prostration due to his own inaptitude.

1. Pestalozzi's Life and Work

Early life and training. Johann Heinrich Pestalozzi was born in Zurich, Switzerland, January 12, 1746, the son of a capable physician. His father died prematurely, when the boy was only five years old, and left the mother, a gifted and devoted woman, with a slender fortune and three children, a girl and two boys. Pestalozzi wrote thus of his home training:[1]

> My mother devoted herself to the education of her three children with the most complete abnegation, foregoing everything that could have given her pleasure. In this noble sacrifice she was supported by a poor young servant whom I can never forget. During the few months she had been in our service, my father had been struck by her rare fidelity, and unusual quickness. On his deathbed, agonized at the thought of what the consequences of his death might be for his family that he was leaving almost penniless, he sent for her, and said: "Babeli, for the love of God and all His mercies, do not forsake my wife! What will become of her after my death? My children will fall into the hands of strangers and their lot will be hard. Without your help she cannot possibly keep her children with her." Her noble, simple heart was touched, and her soul accepted the sacrifice. "If you die," she said, "I will not forsake your wife, but I will remain with her, if needs be, till death."
>
> She kept her word, for she stayed with my mother till she died, helping her to bring up her three children under the most difficult and painful circumstances imaginable, and showing in this work of patient devotion a tact and delicacy which were the more astonishing, seeing that she was entirely without education and had left her native village only a few months before to try and find a situation in Zurich.

The rigid economy of the home and the dominating influence of his mother and nurse gave his character the peculiar bent which it retained throughout life. Affectionate, emotional, sensitive, and generous by nature, feminine characteristics were far stronger than the masculine in his personality. Unfortunately, his mother and nurse increased the natural inclination of the boy. They appealed to his sentiments and devotion rather than to his reason and manliness. When Heinrich and his sister and brother desired to go out and mingle with others, Babeli, the nurse, would say to them: "Why do you want to go out and spoil your clothes and shoes to no purpose? See how your mother goes without everything for your sakes, and how she never leaves the house for months together, how she is saving every farthing for your education?" This appeal to their feelings and the constant examples of self-sacrifice of the mother and of Babeli herself left the most ineffaceable impressions upon young Heinrich's memory. Without the influence of a masculine character to counterbalance, he grew up an impractical, emotional dreamer. Yet it was likewise the influence of his early home life that gave to his nature the altruistic

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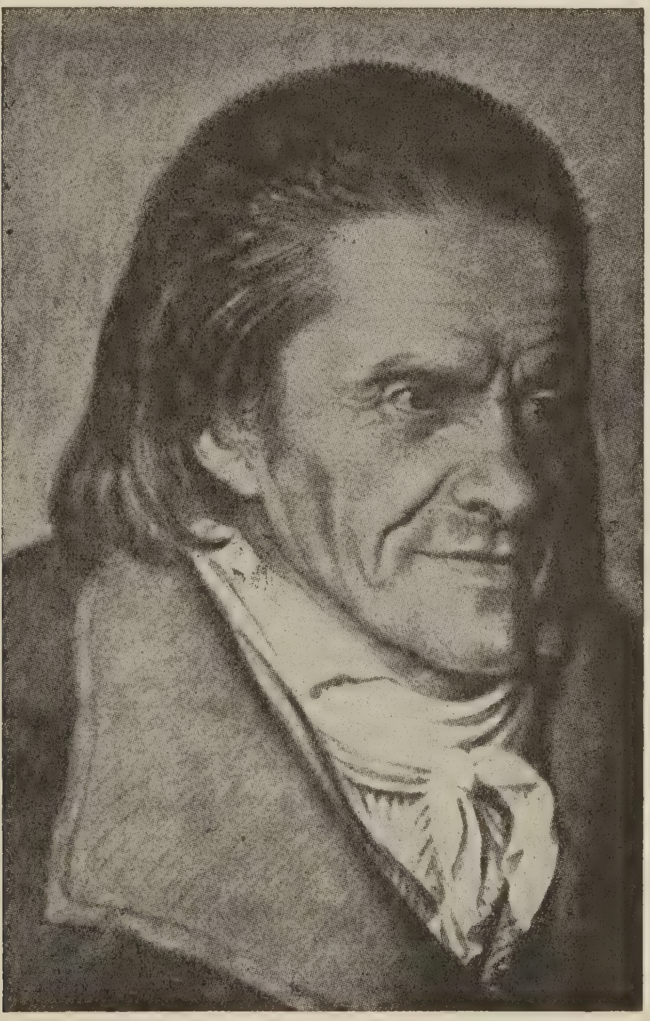
[1] DeGuimps, Roger, *Pestalozzi: His Life and Work,* pp. 2–3. Translated by J. Russell. New York, Appleton, 1895.



Johann Heinrich Pestalozzi.

bent which was the source of all his strivings, all his failures, all his sorrows, and equally the source of his imperishable success. As Niederer, his friend and helper, said: "In Pestalozzi there was as much of the woman as of the man." Puny from birth and from always being indoors, brought up entirely by women, deprived of a father's influence, and contact with boys of his own age, and all outdoor games and interests, Pestalozzi always remained small and weak, shy and awkward, impressionable and quixotic.

School life. The school life of Pestalozzi failed to correct the one-sided influence of the home; on the contrary, it further accentuated the character he had been forming. In his social relations with other pupils he developed no power of self-assertion, no discernment of character, nor yet the ability to understand the actual conditions of life, and to distinguish his own impracticable notions from the world of stern reality. He described how he was always the sport of his fellows: [2]

> From my childhood I have been everybody's plaything. My education, which gave food to all the dreams of my fancy, left me alike incapable of doing what everybody does, and of enjoying what everybody enjoys. From the very first, little children, my schoolfellows, sent me where they would rather not go, and I went; in short I did all they wanted. The day of the earthquake at Zurich, [Dec. 19, 1755] when masters and boys rushed pell-mell downstairs, and nobody would venture back into the class-room, it was I who went to fetch the caps and books. But, in spite of all this there was no intimacy between my companions and myself. Although I worked hard, and learned some things well, I had none of their ability for the ordinary lessons, and so I could not take it amiss that they dubbed me Harry Oddity of Foolborough.

Pestalozzi attended, in turn, the ordinary elementary school and later the Latin school. But, if one believes him and his biographers, he did not learn very much at these institutions, and they made little difference in his career. A more powerful influence came from his experience with his grandfather, Andrew Pestalozzi, who was the pastor at Honegg, a small village three miles from Zurich. From the time that Pestalozzi was nine years of age, he spent a portion of his summer vacations there. These visits gave him an opportunity to come into closer contact with nature, and to find in his love for it a satisfaction which he could obtain nowhere else. More important than this were the impressions left on his youthful mind when he accompanied his grandfather on his daily visits to the schools and to the sick and poor of the parish. He came to know the bitter realities of the life of the people; and young as he was, this acquaintance with their suffering touched him with profound compassion and aroused in his heart an unquenchable desire to find some remedy for the evil. Hermann Krüsi, Jr., son of Pestalozzi's first associate at Burgdorf, says of these experiences: [3]

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[2] *Ibid.*, p. 6.

> In this village, where many mills were in active operation, he first witnessed the contrast between extreme wealth and abject poverty. He saw the children of the village playing before the school-house, with eyes sparkling with pleasure and innocence, contented and happy even in their rags; but when he compared them with those of more mature age, the victims of overwork and manifold vices, with hollow cheeks and sunken eyes, and with the appearance of constant misery upon their faces, his young soul was incensed against the selfishness of wealth built upon such ruins of health and happiness. What he daily saw of the oppression of the people under an aristocratic government, and the acts of injustice committed under its sway, nurtured in his breast that yearning for liberty and reformation which earned for him afterward the name of a noble-minded patriot and true liberal.

Brought thus early into contact with the suffering and lamentations of the people, pity for their lot pierced his young heart so deeply that he was never to forget it.

College experiences. The higher school at Zurich consisted of two parts: the *Collegium Humanitatis*, which gave a two-year course in the arts; and the *Collegium Carolinum*, which gave professional courses with the emphasis upon theology. Pestalozzi attended both these institutions, and came into contact with the many torrential political and social currents of his time. Two members of the small faculty exerted a profound influence upon the students: J. J. Breitinger, professor of Greek and Hebrew; and J. J. Bodmer, professor of history and politics. The latter made Zurich the greatest resort of literary characters in the German world.[4] His teaching was concerned with the history of Switzerland, and the result was to inspire the students with a passionate love of justice and liberty. Roger DeGuimps furnishes a vivid picture of the influence of these two professors: [5]

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[3] Krüsi, Hermann Jr., *Pestalozzi; His Life, Work and Influence,* p. 16. New York, American Book Company, 1875.

> So great was the influence of these professors on their pupils, that the latter came to despise wealth, luxury and material comfort, and cared for nothing but the pleasures of the mind and soul, and the unceasing pursuit of justice and truth. For a long time Pestalozzi and his friends slept on the bare ground, with no other covering than their clothes, and ate nothing but bread and vegetables.

Professor J. A. Green relates that young Pestalozzi "whipped himself till he bled that he might be able to bear the pain for any punishment his ardour might bring upon him." [6]

Pestalozzi had entered upon higher instruction with but superficial preparation. There has always been a question as to his scholarship, largely attributable to his frequent references to his own defective knowledge. At the college, it would seem, he made a little progress and attained mastery of several lines of thought. On one occasion, one of his professors, who had a good knowledge of Greek but poor command of the vernacular, published a translation of some of the orations of Demosthenes. Pestalozzi himself had the boldness to translate one of these orations and to hand it in as an examination exercise. DeGuimps is the authority for the statement that this translation was deemed so excellent that the college published it. That Pestalozzi had attained some degree of scholarship and had great talent can also be judged from his writings at this time. Nevertheless, we can readily accept his own statements which testify that he was always lacking in systematic effort and acquisition. As a matter of fact, he never mastered orthography and grammar.

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[4] Bodmer was one of the first to introduce the German world to the creative spirit of English literature and to lay the basis for the new Humanism. In 1732 he translated Milton's *Paradise Lost.*

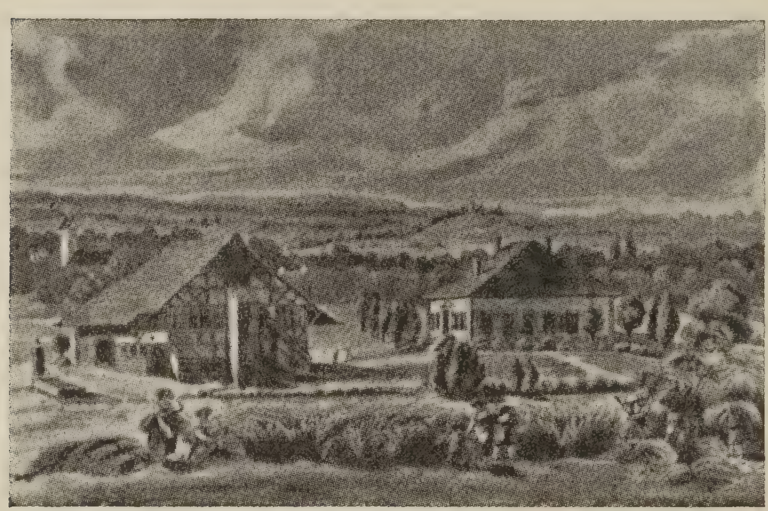
[5] DeGuimps, Roger, *op. cit.,* p. 10.

[6] Green, J. A., *Life and Work of Pestalozzi,* p. 22. London, University Tutorial Press, Ltd., 1913.

Pastor, lawyer, and agriculturalist. Stirred in early childhood by the inexpressible misery and incapacity of the common people, Pestalozzi looked at first to the pastoral office as the vocation that offered most opportunities for ameliorating the poverty and suffering of the peasant class. His college work was at first directed to this end. As he utterly broke down in his trial sermon, he shifted his interest to the study of law and politics. He imagined that, by becoming a statesman, he could direct legislation and bring about a better social and political world. But here again he was quickly disillusioned. His activity as a student marked him in the minds of the common people as a dangerous radical. Under the circumstances he could not hope to have the support of the very people he desired to help.

Several influences during the middle of the 18th century centered the interest of people generally upon agriculture. First, there was a reaction, among many of the more thoughtful, against the artificialities and evils of society. Rousseau advocated a return to the simple life of the peasant, and held up agriculture as not only the most original but the noblest and happiest of all the arts. At the same time and in accord with this widespread reaction, the French Physiocrats were teaching that farming was the only industry which produced a real profit.

In addition to these influences, several other fundamental ideas were at work. The growth of population and the depletion of the soil made the problem of food supply a serious one. However, the science of chemistry offered promise of improved crops. From all these ideas, there spread over Europe, especially in university circles, a deep interest in agriculture, and many students responded to this new enthusiasm. Pestalozzi spent a year with a practical agriculturalist, Tschiffeli, to equip himself as a farmer. With glowing hopes, he borrowed money and purchased one hundred acres near the village of Birr, in Aargau. Here he constructed a comfortable home and settled down to raise madder and vegetables to sell in the city of Zurich. He christened the place Neuhof, and here, for thirty years, he took part in a slow-moving drama which caused him to drink to the very dregs the cup of bitter defeat. He consoled himself with the thought that he had to live like a beggar that he might learn what was necessary to make beggars live like men. It may be added that he was not alone in his destitution, for when he settled in Neuhof, he married a woman of much ability and a little fortune. In 1770, his first and only child was born. This event recalled his early dreams of doing something for the assistance of the poor.



Neuhof, 1769.

By 1775, the experiment at Neuhof had miserably failed, and Pestalozzi lost everything except the house. Captivated by a new enthusiasm, he now turned his home into an orphanage and this ideal, above all else, became the life-long idol of his heart. "It has been said," remarks his biographer DeGuimps, "that had this not been an act of such monstrous folly, it would have been an instance of the most sublime self-sacrifice." After several hectic years this dream faded, and Pestalozzi was again completely down and out.

Development of his educational ideas. Interest in education as the supreme means for the uplift of mankind unfolded slowly in his thinking. The first contact with this idea came in his student days when he read Rousseau's *Emile,* shortly after its publication. The birth of his son strongly revived this interest, and he decided to rear the boy according to the principles of Rousseau. In his experiment in the orphanage he had tried to unite training in gardening, farming, cotton spinning, and housework, with instruction in reading and writing. The failure of the orphanage did not weaken his confidence in the plan. As all other hopes of realizing the noble dreams of his life seemed lost, Pestalozzi decided to give his ideas to the world in written form.

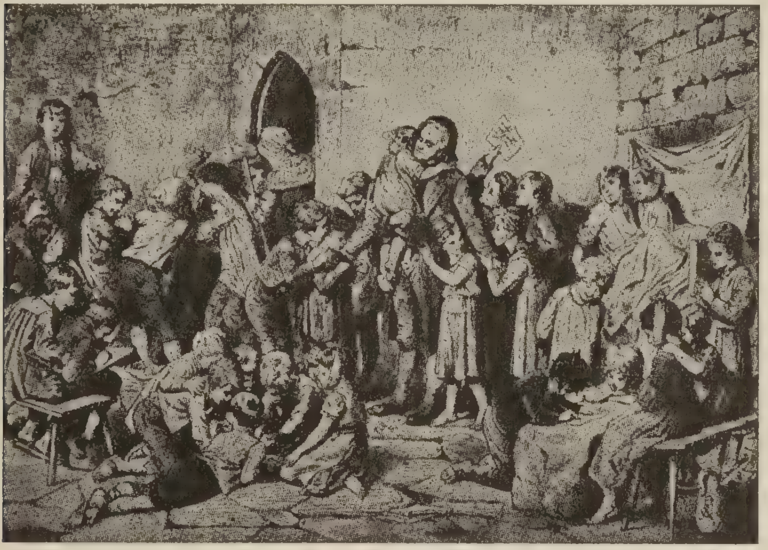
In 1782, he published *Leonard and Gertrude,* his first important work. This is a simple, vivid portrayal of a Swiss village, with its background of drunkenness, poverty, hunger, misery, loutishness, meanness, and autocracy. But standing in striking contrast against this dark scene is the sweetness, order, and efficiency of Gertrude, the wife of the village drunkard. In her home she trains in various domestic and industrial arts not only her own but also her neighbor's children. Moreover, she unites with these handicrafts reading, writing, arithmetic, and other studies. This simple book aroused the greatest enthusiasm as a descriptive novel; but to Pestalozzi's utter chagrin and disappointment, no one looked upon it as a treatise on education. He tried to remedy the error on the part of the reading public by publishing several sequels which explained his ideas on education more definitely. But the more earnestly he made the attempt, the more utterly he failed, for his readers were not interested in his plans for the reform of education.

The next years of Pestalozzi's life were spent in desperate poverty. About 1792, he came into contact with the youthful German philosopher, Fichte, who was destined to become the brilliant Idealist and reformer of Germany. The two men became ardent friends, with consequences of the greatest importance for human history. Fichte introduced Pestalozzi to the philosophy of the profound thinker Immanuel Kant. Some years later Fichte directed the stricken and defeated Germany to the schoolcraft of his Swiss friend as the only hope of the fatherland. At his suggestion, Pestalozzi wrote a most carefully thought-out book, *My Investigations into the Course of Nature in the Development of the Human Race.* Pestalozzi always regarded this as his most important work, but the scholars of the world, and even the most ardent admirers of Pestalozzi, have passed over it with indifference. Yet, it was those three years of intensive thinking given to this book which issued in his celebrated declaration: "I want to be a schoolmaster." This resolution resulted from the conviction which came to him that only the school, with a wholly new method of instruction, could regenerate mankind. Under this impulse he took charge of the orphanage at Stanz, which in the few brief months of its existence became "the cradle of the modern elementary school."

What, the inquiry arises, was this remarkable new insight which produced such a profound revolution in Pestalozzi's thought and drove him, when already well beyond fifty years of age, into the primary classroom? It was the conviction that the regeneration of society can only be accomplished by the slow process of raising each individual to a higher level of self-respect and sense of power. In his early plans for education Pestalozzi had placed his confidence in the learning of a trade or handicraft, and in the ability to read and write. Many thinkers had staked their faith upon the diffusion of knowledge, but did not show how this was to be made to function in the lower class of people. From all other plans of reform, Pestalozzi turned coldly away; he pinned his faith to the possibility of improving even the lowest rank of human society by the psychological development of the powers of each individual. He aimed to produce in each child and man a deep sense of personality and dignity by making him aware of his own inherent powers.

Personality of the man. Pestalozzi was far from attractive. In physique he was small, and his countenance was ugly. His health was never good. Added to this was an absolute indifference as to his dress and appearance. He wore knee breeches, and his stockings were frequently down and his shoes unbuckled. His eyes were wild and roving; his manner was nervous and, in conversation, animated. He was utterly informal and approachable, equally ready to explain his principles to a king or a peasant. Yet, with it all, there was such a spirit of goodwill and abandonment to his purpose that instinctively everyone loved and trusted him.

Pestalozzi's schools. It would be a mistake to conclude that Pestalozzi had in view, when he began to teach, a complete system of educational principles. Far from it. He knew his main purpose; and in the orphanage at Stanz and later in his schools, he gradually felt his way to a sound pedagogical practice. Out of his experiences he culled certain fundamental principles; but, in truth, he was always more or less an experimentalist. The two chief institutions which established his fame were the institute at Burgdorf, from 1800 to 1804; and a similar one at Yverdun, from 1805 to 1825.



PESTALOZZI'S SCHOOL AT STANZ.

Yverdun, like Burgdorf before it, was a boarding school for boys. At its best, it enrolled from one hundred and fifty to two hundred pupils, ranging from 6 or 7 to 18 years of age. The majority were Swiss, but many races were represented—French, German, Italian, Polish, English, and others. The prevailing languages were French and German.

Pestalozzi, his wife, and the unmarried teachers lived in the school, and conducted it as a well-ordered family. The long rooms located in the upper story of the old chateau provided dormitories for the boys.

For Pestalozzi, the home is always the ideal educational institution. Its ordinary activities he considered the best means for stimulating the child's constructive powers. The warm family life is the most effective medium for the development of social experience and the understanding of personal relations; it is therefore the foundation of all moral, political, and religious life. "Our educational machinery has only a value in so far as it approaches the character of a well-ordered house in all its details." A peasant who came to Pestalozzi's institution to visit his son, out of surprise at what he saw, exclaimed: "Why, this is not a school but a family!" Filled with delight, Pestalozzi replied: [7]

> That is the greatest praise you can give me. I have succeeded, thank God, in showing the world that there must be no gulf between the home and the school.

The daily program of the school shows how completely the life of the boys was directed. Some of the masters slept in the same rooms with them. In summer they were up at 5:30 o'clock, and in winter at 6. Half an hour was allowed for dressing. From 6 to 7 the morning prayers and the first lessons took place. Then followed washing and breakfast. From 8 to 10 the lessons continued, one hour being devoted to a period. The more difficult subjects, such as arithmetic, came at this time, when the mind was freshest. A sandwich was eaten in the five- to seven-minute interval between the class periods. From 10 to 12 o'clock further lessons followed. From 12 to 1:30 the pupils had dinner and recreation; then classes were resumed until 4:30 or 5. A short period of recreation was again given, and lessons followed until 8. From 8 to 9 o'clock evening prayers were held, and then the boys went to bed. It will be seen that the day was fully occupied. A much longer period of time was devoted to class work than is usual in schools today; between nine and ten hours daily were spent in classroom exercises.

Care was necessarily taken to avoid overworking the children. The heavier subjects came in the morning, and the lighter—such as music, drawing, fencing, and manual training—in the afternoon. Special private lessons in languages and other subjects also had to come at this time. Recreation played a large part in the school life. Wednesday and Saturday afternoons were free, and quite frequently were employed in a picnic trip to some place of interest in the valley. Rigid adherence to the daily schedule was not followed. The life of the place was quite informal, simple, and variable. At times Pestalozzi became so interested in the after-breakfast plays that he allowed them to continue until 10 o'clock. Swimming in the river which ran by the chateau was a common habit in the summertime.

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[7] DeGuimps, Roger, *op. cit.*, p. 210.

The organization of the school was quite simple. Children under eight years of age were combined in a primary class. Above this was the school proper, consisting of two groups: the lower class of boys, from 8 to 11 years of age; and the upper class of children, from 11 to 18.

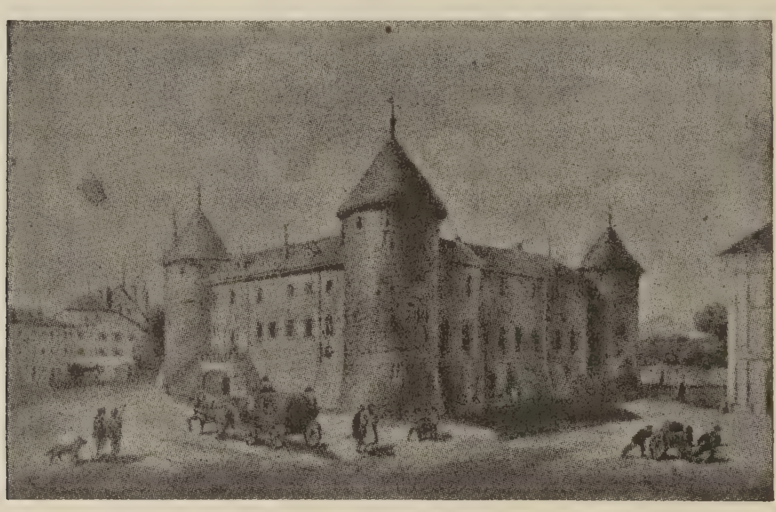
The course of study and the time allotted to each subject weekly were as follows:

PROGRAM FOR WEEK

Lower Class		Upper Class	
Subject	*Hours*	*Subject*	*Hours*
Nature Study	2	Natural History	2
Description of Products of Art	2	Technology	2
Geography	2	Arithmetic	6
Knowledge of Country (walk)	2	Geometry and Drawing	4
Arithmetic (mental)	6	Language	4
Drawing	4	Singing	3
Reading and Language	6	Religion	9
Singing	3		
Religion	6		

Discipline and worship. The discipline of the school was mild and paternal. Believing that learning must be wholly natural, Pestalozzi was opposed to any coercion whatsoever. In general there were neither punishments nor rewards. Rivalry and fear were not invoked as incentives. The masters were forbidden to punish any boy, and corporal punishment was resorted to by "Father Pestalozzi" only in extreme cases. The evening assembly hour, usually led by Pestalozzi himself, was employed in giving the boys moral and religious instruction. Questions of discipline were discussed in the assembly.

Last years. The Burgdorf institute came to an end because the old castle was needed by the town authorities for other purposes. But its end did not come any too soon, for the inner decline of its vital power had already set in. Pestalozzi's new effort, at Yverdun, had its period of greatest prosperity from 1805 to 1810, when the institution attained a celebrity unparalleled in the history of education. From this time until it was finally closed in 1825, there was an increasing struggle against the inner forces which were tearing at its very heart. The last years were full of bitterness and sorrow. It is deeply pathetic to read of Pestalozzi's final efforts to save the institution at Yverdun, and of further attempts to begin a new institution when this had collapsed. Exhausted by an effort to answer his critics, he came to his death in 1827.



Pestalozzi's School at Yverdun.

Most important writings. It has already been noted that Pestalozzi's first important work was *Leonard and Gertrude,* which created a great sensation as a picturesque novel. Its serious message on education did not attract attention, nor did the two sequels, which were too highly didactic to be at all popular. The most philosophical of his writings, *My Investigations into the Course of Nature,* was a dismal failure. In 1801, he published *How Gertrude Teaches Her Children.* This is by far his most enduring work and the clearest exposition of his principles. In a series of letters he set forth the development of his ideas. He wrote another series, *Let-*

ters on the Early Education of the Child, for J. P. Greaves, an Englishman who spent some years at Yverdun. Shortly before Pestalozzi's death there appeared *The Swan Song* and *My Experiences,* in which are found the final statements of his views. Many scholars believe that these works contain the best exposition of his philosophy.

2. Principles of Education

School conditions. The contributions of Pestalozzi to educational reform can best be appreciated in contrast with the existing school conditions. Provisions for the education of the common people were incredibly bad. The church was still largely in control of the schools everywhere and exhibited no real concern for improvement. Instruction consisted of little beyond the catechism. Memorization was the only method, and teachers possessed no fitness for their task. The privileged classes looked upon the common people as cattle, and, in view of the horrors of the French Revolution, they feared to enlighten them. Moreover, it is a mistake to assume that the people, on their part, were eager for knowledge. Steeped in ignorance and superstition, they had an attitude of profound suspicion and positive distrust toward all philanthropic efforts to ameliorate their lot. More than one noble experiment in education was thwarted by their lethargy or opposition.

School buildings for the lower classes were generally lacking. In the canton of Zurich some three hundred and fifty schools were in existence; but less than one hundred had buildings of their own, and these were unfit for their purpose. Most of the schools were held in private houses, an example of which is given by Morf:[8]

> As I opened the door, an oppressive feeling of dampness struck me. Packed in a dark corner our country's greatest treasure—its youth—were sitting, compelled to breathe the hot air reeking with foul mist. The windows are never cleaned, the room is never aired. The children are so closely heaped together that it is impossible to get out without climbing over the seats and tables.

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[8] Morf, H., *Zur Biographie Pestalozzi's.* Vol. 1, p. 18. Quoted by Green, J. A., *op. cit.*, p. 16.

The schoolroom was frequently also the family living room, where domestic duties were carried on during school hours. Similar conditions were found in most European countries.

Teachers were often selected for other reasons than their ability to conduct school. In fact, no special fitness was required. Disabled soldiers were appointed by Frederick the Great. Tailors, tavern keepers, brick layers, and other artisans were often employed. Sometimes the choice was determined by the possession of a room where the children might assemble.

The following story gives a concrete picture of the conditions:[9] When Pastor Stouber took up his charge, he wished to see the principal of the school.

> . . . He was taken to a miserable cottage where a number of children were crowded together without any occupation, and in so wild and noisy a state that he could with difficulty get a reply to his inquiries for the master. "There he is," said one of them, pointing to a withered old man who lay on a bed in one corner of the room. "Are you the schoolmaster, my good friend?" inquired Stouber. "Yes, sir." "And what do you teach the children?" "Nothing, sir." "Why, then, were you made schoolmaster?" "Why, sir, I had been taking care of the pigs for the countryside for many years, and when I got too old and feeble for that, they sent me here to take care of the children."

This, we are reliably informed, was not an exceptional case in the latter part of the 18th century.

Aim of education. Pestalozzi's theory and practice came from his desire to change the horrible condition of existence of the common people. They lived in indescribable degradation, more like animals than men. This condition was due to the feudalistic social and political situation which still survived in Switzerland. In the canton of Zurich, 5,000 citizens lorded it over 140,000 peasants, who were little better than serfs. Political office, industry, production, and trade were monopolies of the few. Then the revolution in Switzerland abolished these privileges, and emancipated the people. Agriculture and industry began to develop. But poverty, squalor, misery due to ignorance and incapacity continued. It was

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[9] Green, J. A., *op. cit.*, pp. 16–17.

Pestalozzi's purpose to raise the people from this state of degradation to the level of humanity. It was not so much the poverty that he saw about him everywhere among the common people which hurt him; it was rather the degraded lives they led. Their shiftlessness, their sense of futility and hopelessness, their want of purpose, and their utter loss of human dignity stirred his soul to its depths. This deplorable situation, he firmly believed, could be cured by properly devised measures. Concerning his purpose, he said: [10]

> Ah! . . . ever since my youth, has my heart moved on like a mighty stream, alone and lonely, towards my one sole end—to stop the sources of the misery in which I saw the people around me sunk!

And again: [11]

> Long years I lived surrounded by more than fifty beggar children. In poverty I shared my bread with them. I lived like a beggar in order to learn how to make beggars live like men.

After the Swiss revolution, which won liberty for the downtrodden class, Pestalozzi came to share the views of Legrand, one of the directors of the unified government. They both felt that a better education for every individual was the only means of conserving the advantages gained by the political change. The winning of political, social, and economic rights meant little for the people unless these were accompanied by the development of their capacities to profit by and utilize their liberties. The right to individual development must be, logically, prior to and more fundamental than any other human right whatsoever. Without the development of a child's capacities, all other rights are useless and a mockery.

There were abundant plans for ameliorating the desperate plight of humanity. Some advocated a new religion; some, old religions; and some, no religion at all. Some advocated new forms of government; others looked to new social organization, or to new economic conditions. Through the snarled web of conflicting ideas and theories, Pestalozzi seized upon several fundamental principles, on which his reforms were based:

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[10] Pestalozzi, J. H., *How Gertrude Teaches Her Children,* p. 9. All quotations from *How Gertrude Teaches Her Children* are from the translation by L. E. Holland and F. C. Turner. Syracuse, C. W. Bardeen, 1894.

[11] *Ibid.,* p. 213.

(1) First, all genuine reform must begin with the individual and not with society. On this point Pestalozzi said:[12]

> Those who wish to make the community virtuous and strong, before virtue and strength are developed in the individual may frequently lead the State into wrong action, because they try to fix the external forms of virtue and strength upon men without making sure that the essence of the thing is theirs.

The elevation of every individual is the only certain means of elevating the whole. In other words, the reform of social organizations, governments, economic conditions, and the church are futile unless the individual is developed to use these institutions to advantage. This principle was the ripened fruitage of the movement which had been in progress since the Reformation—the growing sense of the dignity and importance of the ethical personality of every man.

(2) Second, the individual can be elevated only by putting into his grasp the power of helping himself. Philanthropy renders him dependent and weak, and robs him of self-respect, which is the dearest possession of human life. The greatest service that society can render to an individual is to teach him to help himself and to respect himself.

(3) Third, the only means of attaining the end desired is through the process of development. The seeds of independent action exist, though in a latent condition, in every child. These dormant powers are merely awaiting an opportunity to unfold. The inner impulse is already present; education must furnish the opportunity for its unfolding.

The ultimate aim of education, for Pestalozzi, is to insure a happier and more virtuous life for every individual. The process by which he hoped to bring about this desired end is the harmonious development of all the powers of the individual. Education is the most fundamental philanthropy, the first human right. For this reason, Pestalozzi became an educator and social reformer.

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[12] Green, J. A., *op. cit.*, pp. 141–142.

Organic development. If one seeks to express in a single statement the inner secret of Pestalozzi's general theory of education, he will come closest to it in the idea of organic development. Pestalozzi looked upon the child as a natural organism that unfolds its inner life according to definite, orderly laws. This conception was by no means new, for it was inherent in the idea of man as a human plant, popularized by La Mettrie and others. But Pestalozzi employed the idea in such a way that it gained a new and fuller significance. He never wearied of using the growth of the tree to illustrate the process of human development. His pupil and biographer, Roger DeGuimps, has presented in very striking terms the use of this interesting anology: [13]

> If we wish to grasp Pestalozzi's idea in its simplest, and at the same time its most general expression, we must seek it in a comparison which is so natural and familiar to him that he is always going back to it. In his speeches, in his explanations of his views, and especially in his fables, he is constantly comparing the education of man, even from the intellectual and moral point of view, to the development and growth of a plant. It is evident that in his eyes the analogy is complete. He even states it once in these words: "Man, formed from the dust of the earth, grows and ripens like a plant rooted in the soil."

It was Pestalozzi's main purpose to discover the laws according to which the body, mind, and heart of the child develop. These laws, he believed, are as natural as any of the laws of the physical world.

While he always employed the analogy of the tree to express his theory of development, Pestalozzi was aware that the human plant differed from the vegetable in several important ways. First, the human organism is much more complex in its composition; again, from the beginning of life to maturity, a far greater number of changes take place in its development than in that of any plant. It is, moreover, the long period of development that makes education essential. In fact,

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[13] DeGuimps, Roger, *op. cit.*, p. 123.

"man is the one creature," he declared, "whom nature takes time to educate."

Pestalozzi held that the organism has three distinct aspects. First, there is the intellectual side, which results from man's relation to his surroundings, for the environment determines "the kind of sense impressions" he experiences. Second, there is the physical side, especially that aspect of it which expresses itself in motor activities. These activities, as Pestalozzi viewed them, arise from within and are the result of man's inner wants. Third, there is the moral and religious side, which may be looked upon as one and the same, and may best be termed the ethical. This aspect of man's nature has its basis in the relations which he has with other human beings and with God. These three aspects are often popularly named "the head," "the hand," and "the heart." Each of these develops in its own characteristic way and according to ascertainable order and laws. To find the laws of their development and to utilize them in the training and instruction of the child are the tasks of scientific education.

From this conception of organic development, Pestalozzi deduces certain general principles and methods that are to be observed in the processes of training and instruction.

(1) *Development must be harmonious.* This principle is of supreme importance because of the complexity of human nature. The three aspects—the intellectual, the ethical, and the executive or constructive—normally function together, and they must, therefore, be developed in unison. "Only that is truly and naturally educative which appeals to the whole of our being, heart, head, and hand together." Human nature is a unity, and each capacity is an essential part of the unity. Pestalozzi insisted emphatically on this point of view.[14]

> It is only when the harmony [of the various capacities] is maintained that they are in conformity with human nature. Conversely, only that which affects man as an indissoluble unit is educative in our sense of that word. It must reach his hand and his heart as well as his head. No partial approach can be satisfactory. To consider any one capacity

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[14] Pestalozzi, J. H., *The Swan Song.* Edited by J. A. Green, in *Pestalozzi's Educational Writings,* pp. 268–269. London, Edward Arnold, 1916. All *Swan Song* quotations used in this chapter are from this edition.

> exclusively [head or heart or hand] is to undermine and destroy man's native equilibrium.
>
> Specialized development of one side of human nature is unnatural and false. Education worth the name necessarily strives after the perfection of man's powers in their completeness.

Whenever any one of the three elements of human nature does not receive proper emphasis, the unity of the organism is disturbed and the individual suffers. He is unable to live a completely normal life, and to adjust himself to the demands of civilization. Pestalozzi was keenly alive to this danger, and blamed it for some of the supreme weaknesses of the age. The neglect of training for constructive work, that is, for the applying of knowledge, especially incensed him. On this point he declared: [15]

> I cannot leave these gaps untouched. Perhaps the most fearful gift that a fiendish spirit has made to this age is *knowledge without power of doing (Fert.) and insight without that power of execution or of overcoming* that makes it possible and easy for our life to be in harmony with our inmost nature. Man! needing much and desiring all, thou must to satisfy thy wants and wishes, *know* and *think*, but for this thou must also (can and) *do*. Knowing and doing are so closely connected that if one cease the other ceases with it.

Head, heart, and hand are entirely different organs; yet they must function in harmony. In his early writings and practice, Pestalozzi emphasized the executive side. Later, after more reflection, he came to see that mere training in "doing" will be ineffective unless the other sides of life are also developed. An individual trained only to produce, no matter how expertly, is not completely humanized. He will become a mere mechanical creature unless his capacities of mind and moral life are also developed to give significance to his productive life.

These three constituents of human nature are not, however, coördinate in functions; that is to say, they do not stand on exactly the same level of importance. They are all essential, but one is more central. In this, Pestalozzi agreed with the views of the profound thinker Immanuel Kant, who, through Fichte, affected his thinking. In accordance with Kant's doctrine, Pestalozzi held that the ethical life of man holds the primacy, and the physico-motor and the intellectual are subordinate. The human being must learn to know and to think; he must develop to the fullest extent his intellectual capabilities. But this is not an end in and of itself. Similarly, man must acquire skill in applying knowledge; he must engage in constructive activities; he must acquire a vocation and learn to produce. But this also is not an end in and of itself. The supreme end is the realization of a complete personality that lives harmoniously in relation to other human personalities and to the Supreme Being. It is the business of the moral and religious life to correlate and unify the other powers of the organism with itself.

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[15] Pestalozzi, J. H., *How Gertrude Teaches Her Children*, p. 173. "*Fert.*" is the German *Fertigkeit*.

(2) *General education must precede the vocational.* In his earlier views, Pestalozzi sought the beginning of education in the utilitarian activities which center in the home, in agriculture, and in industrial activities. Later, he receded from this position and concluded that education of a general character must precede the acquiring of specific skill of a vocational kind. Human nature needs to be uplifted and ennobled by the development of its fundamental capacities for thought and action, before the individual shall be trained for a specific vocation.[16]

> The development of mind and heart precedes any particular branch of industry; that is to say, we need first of all a general education of head, heart, and hand. Industry which is mere routine, mere mechanical skill in a particular direction, which has its origin in external conditions and is based upon primitive impulses, exalts and ennobles neither individual men nor the people as a whole. But the spirit of industry which is produced by a comprehensive "Elementary" Training brought into harmony with the higher capacities of man's essential spiritual nature is ennobling; for it brings contentment to man through reality. It beautifies activity through the purity of the soul and consecrates life through love.

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[16] Green, J. A., *op. cit.*, pp. 352–353.

That general education must precede the vocational was one of the chief principles of Rousseau. But it was not until Pestalozzi became acquainted with the ethical conception of Kant and the new Humanism of the Germans that this fundamental idea fully dawned upon him.

In his various institutions Pestalozzi endeavored to work out a system of general intellectual instruction. His earlier emphasis upon industrial and domestic activities no longer received attention. It would seem, however, that he was never entirely satisfied with his results; he was always more or less conscious that constructive activity was not receiving the attention it deserved. As a consequence he always hoped for an opportunity to do something to promote the constructive aspect of education.

(3) *The increase of power and not knowledge is most essential.* The theory of education by organic development places the emphasis upon the growth of power rather than the acquisition of knowledge. Pestalozzi was in full agreement with this view. It was not so much that he minimized the importance or value of knowledge, but rather he saw that the effort to force knowledge upon the mind is unnatural and injurious. He fought with all his might against the old education, which furnished the child with the finished judgments of others' thinking. He explained: [17]

> I tried more to develop the inner capacity of the child than to produce isolated results. . . .
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> The unfolding of capacity is in everything our first object. We regard the various subjects of the curriculum rather as different means of intellectual training than as means for increasing knowledge. . . . It is a principle of ours that the teacher should aim rather at increasing the powers of his pupil than at increasing their knowledge. Unless we stand by this principle absolutely, there is an end to the idea of effecting the harmonious development of the child. Even to know what is right and what is best, unless it is combined with the will and capacity to act accordingly, can be only a source of weakness; it is in fact rather a hindrance than a help. Learning in youth should always be a spontaneous process, a result of free activity, a living and original product.

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[17] *Ibid.*, pp. 348–349.

The traditional process of teaching had a detrimental effect upon the child. It gave the appearance of culture and knowledge, without the reality. But far more injurious even than this false and egotistic sophistication was the fact that the real powers of the child were left weak and undeveloped because they had never been called into function. How can he acquire the ability to form sound judgments when he has never been made to judge for himself? This power must be exercised if it is to develop. As Pestalozzi said: [18]

> I was wholly against making the judgment of children upon any subject, *apparently ripe before the time,* but rather would hold it back as long as possible, until they had really seen with their own eyes, the object on which they should express themselves.

(4) *The child's powers burgeon from within.* The powers of the child burgeon spontaneously from within, because of the awakening of innate impulses; they are not entirely the product of outer environment, as the materialists would have us believe. Once awakened into living action, those innate powers strive to unfold to maturity, as naturally as the acorn grows into an oak. The same law of organic development operates equally in both. Upon this doctrine of the naturalness of the process of human development, Pestalozzi built his system; for the unfolding powers of the child follow a very definite and ascertainable order and law. This is equally true of all aspects of his being: the intellectual, the moral, the motor as well as the purely physical.

By laying bare to our inspection the fundamental course of unfolding in each aspect of the child's nature, the educator secures a blue print to guide him in his methods. Development, therefore, because of its inner character, must be spontaneous and free, and "all educative instruction must be drawn out of the children themselves, and be born within them."[19] All efforts to force the child, before his own powers are ready to break forth into development because of inner impulsion, are bad. In his practice Pestalozzi did not rely upon punishment, rewards, fear, or rivalry. All these are external incentives. True and lasting interest in achievement can be secured only by the development of the child's powers from inner ripening.

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[18] Pestalozzi, J. H., *How Gertrude Teaches Her Children,* p. 48.
[19] *Ibid.,* p. 17.

(5) *Grading is a most essential principle.* Grading has its basis in the manner in which all development takes place. Nature makes no sudden leaps; she slowly unfolds, by scarcely perceptible additions, whatever is to be produced. The significance of this for education was strongly emphasized by Pestalozzi in several points of view. Instruction must be graded, "according to the degree of the growing power of the child," so as to fit his needs.[20]

> In all matters of instruction, it is necessary to determine, with the greatest accuracy, which of those constituents is fit for each age of the child, in order, on the one hand, not to hold him back if he is ready and on the other, not to load him and confuse him with anything for which he is not quite ready.

Gradation involves especially the thought of arranging the subject matter of instruction in a series of transitional steps from the easiest to the most difficult; that is to say, the demands on the child shall be commensurate with his ability to achieve.[21]

> Try to make in every act, graduated steps of knowledge, in which each new idea is only a small, scarcely perceptible addition to that which is already known. . . . Everything which the child has to learn must be proportioned to his strength, getting more complicated and difficult in the same degree as his powers of attention, of judgment and thought increase.

But this idea of a perfect gradation involves also the principle of mastery. As each successive step depends on the one that preceded it, each step must be well mastered before the next is taken. This procedure insures accuracy and thoroughness. In accordance with its demands, repetition and drill played a large role in Pestalozzi's practice. He endeavored to treat each subject in orderly sequence so that the child would readily master each step. A sense of real power was thus developed. The grading of the school followed as a consequence of the grading of the subject matter. While such grading had been worked out, in a way, in the learned or secondary schools, which taught languages, it had been wholly neglected in the classes and in the subjects of common school education.

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[20] *Ibid.,* p. 26.

[21] Green, J. A., *op. cit.,* pp. 174–175.

(6) *In method, follow the order of nature.* As the child organism unfolds according to inner, natural laws, the general method of all education may be summed up in one simple rule: Follow the order of nature. The teacher is a cultivator, a gardener who provides the environment necessary for the growing life. In reflecting upon his educational endeavors, Pestalozzi asked the question: "What is the true type of education?" He answered in the following way: [22]

> It is like the art of the gardener under whose care a thousand trees blossom and grow. He contributes nothing to their actual growth; the principle of growth lies in the trees themselves. He plants and waters, but God gives the increase. . . . So with the educator: he imparts no single power to men. He only watches lest any external force should injure or disturb. He takes care that development runs its course in accordance with its one law. But he must recognize fully the peculiar constitution of man's mind, adapted as it is to unite man's various powers in the interest of his final mission. He knows that sound methods of popular education must agree with the external laws according to which these powers unfold, and that these methods must be sought in that which strengthens and purifies the moral and religious bonds of our powers. The moral, the intellectual and practical powers of our nature must, as it were, spring out of themselves for themselves.

Pestalozzi believed that, in birds and animals, nature has provided, by parental instinct, for the simple training of their young. Just as birds instinctively teach their young to fly, so nature prompts human parents to act in certain ways for the education of their offspring. Pestalozzi would have parents become conscious of these natural promptings. He would take such promptings out of the hands of blind nature, and would see to it that the acts to which they lead are consciously and purposely performed.

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[22] *Ibid.,* p. 195.

All instruction is, then, only the scientific art of helping nature to unfold in its own way. Man has wrested from nature its secret—its law of development—and he now employs this knowledge to insure the desired results. He eliminates those things that may hinder, and supplies those which may assist the natural powers in their efforts to unfold.

On the basis of these principles, Pestalozzi was confident he had discovered a method of instruction so easy, so simple, in fact, so mechanically foolproof, that every mother and father, however ignorant, might successfully apply it. Deeper than most of his other cravings was Pestalozzi's desire to put into the hands of ordinary mothers a method for developing their infants' powers of sense perception, their constructive activities, and their social and moral life. The *Book for Mothers,* which he endorsed, did not permanently satisfy him. A method so mechanically perfect and so simple that the humblest and most illiterate mother could use it, was left, however, for others to attempt, but it was one of Pestalozzi's fondest dreams.

I. Intellectual Development and Instruction

By the peculiar irony of Pestalozzi's fateful career, he accomplished most in the field of intellectual education, although he was more profoundly concerned with the practical and the moral sides. He labored to discover and lay bare the roots and earliest buds in all these fields; yet, it was the emphasis upon sense perception which has created most stir in the world. Of this he wrote: [23]

> The most essential point from which I start is this: Sense impression of Nature is the only foundation of human instruction, because it is the only true foundation of human knowledge.

On reflecting upon his achievements, he declared: [24]

> When I now look back and ask myself: What have I specially done for the very being of education? I find I

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[23] Pestalozzi, J. H., *How Gertrude Teaches Her Children,* p. 200.
[24] *Ibid.,* p. 139.

> have fixed the highest, supreme principle of instruction in the recognition of *sense-impression as the absolute foundation of all knowledge.*

The scholarly world agreed with this appraisal of his contributions so far as the principles of method were concerned. It has also recognized that this was by no means a new doctrine discovered by Pestalozzi. Quite the contrary. The theory had been emphasized by many of the great reformers. What, then, was the reason that such special credit should be given to Pestalozzi for introducing this principle?

The reason lies partly in the new insight with which he invested the idea of sense impression, and partly in the practical method he employed. Several of his predecessors, like Comenius and Basedow, relied to a large extent upon pictures of objects. Pestalozzi saw that, for the beginnings of experience, objects are indispensable and must precede pictures. The picture comes later, and performs the function of assisting the child in making the transition to drawing, writing, and reading. But if the first experiences are to be at all adequate, the senses must come into immediate contact with the objects.

Another and more important reason lies in Pestalozzi's insight that sense experience is an active process. The mind is not passive or merely receptive, as Locke and others believed. The whole mind is implicated in even the simplest sense experience. The fact that every object which is perceived is at once placed in an ordered world of space and time indicates that perception is a mental process. Moreover, when the child begins to discriminate, analyze, and abstract the qualities of objects, the mind is especially active. By this new interpretation, Pestalozzi showed that the inner, active, creative forces of the human organism are related to the functioning of the sense organs. The child does not wait passively for the objects of nature to impress him; on the contrary, his inner being pushes out to greet, conquer, use, and put into order the world of sensory experiences.

Again, the relation of perception to conception had to be made clearer before the function of sense perception in education could be made definite and practical. The profound insight of Immanuel Kant was necessary before the relation of perception to conception was fully understood. By his remarkable analysis of the intellectual nature, he showed that "percepts without concepts are blind, and concepts without percepts are empty." It was this insight which led Pestalozzi to discover one of the chief weaknesses of modern education. The traditional method of teaching and learning had blindly taught children mere words, on the assumption that they were acquiring with them concepts or ideas. But lacking the necessary sensory experiences, the pupils attached no precise meanings to the words. Pestalozzi knew that only by beginning with objects could the child build up accurate, clear concepts. Hence, he concluded that the art of early instruction lies in the selection of proper objects to bring to the attention of the child for his active observation and analysis. To accomplish this significant purpose, Pestalozzi developed his system of object lessons.

Beginnings of the curriculum. Pestalozzi attached the greatest importance to right beginnings. For this reason he sought most earnestly the starting points of all instruction. As just indicated, he found the beginnings of all subjects of the curriculum in the perception of objects by the senses. Clear perception and discrimination of objects through touch and vision lead the mind naturally to the sense of number. Again, from the form of objects, the mind learns measurement; and from measuring, it develops drawing and geometry. Moreover, drawing is the natural antecedent to writing. Through the sense of hearing, the child recognizes sound, from which music and language are derived. The linking up of language with object, that is to say, the integration of visual perception with the word or name, has a profound effect upon the awakening of the intellectual life. Of this, Pestalozzi wrote: [25]

> *Number, form,* and *language* are, together, the elementary means of instruction, because the whole sum of the external properties of any object is comprised in its outline and its number, and is brought home to my consciousness through language.

The beginnings of all kinds of knowledge are found in form, number, and words. For this reason Pestalozzi spent much time in having children observe, analyze, count, and name objects.

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[25] *Ibid.,* p. 87.

The curriculum. From these three starting points just mentioned, Pestalozzi derived his curriculum for intellectual development. It included object lessons, which were always accompanied with training in language; for perception and word form an integrated whole. Arithmetic, both written and mental, was of the highest importance, for this study insures clear and accurate thinking. Object lessons led to the study of nature generally, and included in this was geography. In another direction, sense observation led to the study of the products of man's own making, to objects of manufacture and art. The study of form brought about drawing, interest in color, modeling, and geometry. Vocalization is the origin of language; and this must always be connected with sense observation and intellectual activity. Music, especially singing, was considered another form of language.

It will be noted that Pestalozzi emphasized the mathematical and realistic aspects of the curriculum. Language was emphasized as a means of communication and of thought, but not as a fine art. The objects of nature and science were uppermost in his evaluation. Religion, morals, manual production, plays, and gymnastics received due attention, but they were not considered forms of intellectual development. It will be further noted that Pestalozzi took no account of Mother Goose stories, fairy tales, and literature.

Pestalozzi agreed with Rousseau in the outright rejection of the study of history, though not for the same reason. The facts of history have no connection with sense perception; they are, therefore, too remote from living experience. Concerning this he explained: [26]

> It is utter nonsense that men who have no living acquaintance with the world as it stands before their eyes, should wish to be made acquainted with the spirit of a by-gone world, removed from the world of today by hundreds and even thousands of years. In this subject, one can do no more than to exercise the children in [mechanically] memorizing extended lists of names of men and places which history proper demands.

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[26] Quoted by Green, J. A., *op. cit.*, p. 182.

In disregarding myth, fairy tale, story, history, and literature, Pestalozzi exposed two grave weaknesses in his efforts to construct a system of education. First, he had evidently not observed the intensity of the children's interest in these forms of intellectual activity. Surely he could not have appreciated that the mind of the child stands as much in need of mental play as his body does of physical play. Again, dominated by his principle of direct sense impressions, he failed to understand the function of imagination in developing conceptual thinking. Furthermore, Pestalozzi did not fully appreciate that man is essentially an historical and social creature. It has not been outer nature alone that has made him human, but also the millenniums of social intercourse, the interaction of human beings.

Principles of intellectual instruction. Several principles of special application to mental development were recognized by Pestalozzi. The first of these is that one must proceed from the known to the unknown. When once stated, this idea appears so self-evident that it seems incredible that anyone should ever have pursued the opposite course. And yet, absurd as it certainly was, much of the instruction of children before this time attempted, as someone has remarked, "to teach the unknown by means of the incomprehensible." A most flagrant example of this was the practice of teaching children to recite Latin or the catechism before giving them the meaning of the words. Against all such instruction Pestalozzi vehemently protested. Nothing must be learned which is not readily understood and easily mastered.

Another principle which Pestalozzi recognized is that instruction must proceed from the concrete to the abstract, or, as otherwise stated, from the particular to the general. This principle formed the central theme of all his ideas on intellectual culture. The practice of teaching words before the child has a direct experience of the things they designate, he looked upon as a terrible mistake—a mistake which was to blame for most of the evils of the time. Clearly, however, as he recognized this principle, his efforts were spent in perfecting the primary steps of instruction. As a consequence, he did not show how the process should be carried to its completion. His absorption in the art of sense impression kept him from explaining how the mind develops the power of abstract thinking. It was at this point that his disciple Johann Friedrich Herbart made his most important improvement on Pestalozzi's system.

Logical and psychological order of subject matter. In the attempt to follow out these principles in actual instruction, Pestalozzi encountered a subtle difficulty which never ceased to baffle his thought. The lack of psychological knowledge, together with his inability to express his ideas clearly, greatly misled him. He never perceived the distinction between the logical, or systematic, and the psychological order of subject matter. It was largely this failure to discriminate between these two methods of approach which made him constantly declare that "the art of instruction" depends "on the existence of physico-mechanical laws." It was this confusion which made him think that he could "mechanize instruction." His methods never got away from this grievous error. The difficulty must be briefly explained.

It is now recognized that instruction may adopt one of two possible beginnings, and follow out one of two divergent lines of procedure. These have been called the *psychological* and the *logical* order of subject matter. They may be most readily illustrated by language and drawing.

Yielding to his passion to search for the beginnings of every subject, Pestalozzi recognized vowel sounds as the simplest elements of language. By sounding vowels and consonants together, syllables are formed. Words are constituted by syllables. In this way he followed the traditional practice, and in consequence he had the children repeat meaningless syllables interminably. He was not aware that the psychological origin of language is in the complete word or expression, which has meaning attached to it. The development of language results, not from the practice of expressing meaningless syllables, but from the use of words which express ideas.[27]

Drawing furnishes another example. Pestalozzi traced all form to its simplest component elements. These logical elements are points, lines, angles, and curves. He required his pupils to practice the drawing of lines and angles in a systematic, but tiresome, way until they could draw them perfectly. They were then gradually led along until they could construct highly complex and intricate figures. However, the truth of the matter is that the psychological simple for the child is never a straight line, which, in fact, he is incapable of drawing. The child's first drawing is always a formless scribbling, but to him it represents some idea or object.

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[27] The infant's play in making sounds when he is just learning to talk is quite a different matter. Pestalozzi's method was, however, phonetic.

Methods in the common school branches. Much of Pestalozzi's great influence was due to the changes he introduced in the common school branches. Especially in arithmetic, drawing, geography, singing, and language did he arouse intense interest by the application of his principles. It will not be possible to explain his methods in detail; merely the problem of method will be pointed out in each case, and, in a general way, his new approach indicated.

Reform in teaching arithmetic. The teaching of arithmetic had been seriously affected by the adoption of the Arabic notation. The teaching of numeration was rendered more difficult, though the understanding of arithmetical processes was greatly facilitated. The chief difficulty arose in teaching the new notation system to young children. The Roman notation was closer to the primitive practice of counting the fingers on one's hand, or the counters of the abacus, and was accordingly easier for the child to understand. The Arabic symbolism was somewhat strange and, being farther removed from concrete experience, was less directly suggestive of its significance. As a result, the understanding of simple numbers by the young was poorer in the 18th century than in the 14th. As Dr. David Eugene Smith explains: [28]

> The effect on the teaching of arithmetic was not fortunate in one respect, since the giving up of the counters led from the concrete, visual, palpable arithmetic to the abstract arithmetic of figures. Counting and reckoning came to be more matters of words and abstract rules than before, and arithmetic was probably more poorly taught than it was under the abacus system.

The real trouble lay in the inveterate practice of ignorant teachers who presented the meaningless symbols to young children and blandly assumed that their pupils understood the significance of them. It was this stupid practice which excited the bitter protest of Pestalozzi, and led him to bridge the gap from concrete object to numeration. When once the child has clearly grasped the significance of the symbol, he can readily make progress in the fundamental operations. Pestalozzi elaborated his method of teaching arithmetic by graded steps of progress that accorded naturally with his principles of instruction. He began with the concrete, insisted upon clear insight into every step, and fixed each step, in turn, by repetition and drill. Prior to Pestalozzi's reform, arithmetic was not taught to children before they were ten years old. His method enabled him to teach it successfully in the first grade, where it has been taught ever since.

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[28] Smith, David Eugene, "Arithmetic," in Monroe, Paul, *Cyclopedia of Education,* Vol. I, p. 205. New York, Macmillan, 1913.

Arithmetic was given the position of preëminence in his curriculum because Pestalozzi believed it the most important of all means for the development of clear thinking. Modern education has followed him in this practice and viewpoint. In order to insure proper understanding at every step, Pestalozzi required all operations to be done mentally. This practice led to the new emphasis upon mental arithmetic, given by Warren Colburn in the United States, early in the 19th century.

Geography. This is another subject in which Pestalozzi introduced innovations, which were widely accepted. He boldly dispensed with the aid of charts, maps, and textbooks, and began with nature itself. One of his pupils has given a graphic account of his method: [29]

> For the first elements of geography we were taken into the open air. They began by turning our steps to an out-of-the-way valley near Yverdun, through which the Bûron flows. This valley we had to look at as a whole and in its different parts, until we had a correct and complete impression of it. Then we were told, each one, to dig out a certain quantity of clay, which was embedded in layers on one side of the valley, and with this we filled large sheets of paper, brought with us for the purpose.
>
> When we got back to school, we were placed at large tables which were divided up, and each child had to build

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[29] Quotation from Vulliemin, *Souvenirs Racontés à ses Petits Enfants.* In Green, J. A., *op. cit.*, p. 367.

> with the clay, on the spot assigned to him, a model of the valley where we had just made our observations. Then came fresh excursions with more explorations. Thus we continued, until we had worked through the basin of Yverdun, and had observed it as a whole from the heights of Montela which command it entirely, and had made of it a model in relief. Then, and then only, did we turn to the map, which we had only now gained the power of correctly interpreting.

By thus insisting on the concrete approach, Pestalozzi made geography an essential subject of the elementary school. It may be added that the celebrated geographer Karl Ritter held Pestalozzi in the greatest veneration, and profited by his method.

Drawing. Pestalozzi's interest in drawing grew out of his doctrine of sense impression as the foundation of all instruction. He was the first in modern times to accord this subject a regular place among the skills which form the elementary curriculum. As he viewed it, drawing is connected with the perception of form and, therefore, trains the child in accuracy of observation. It thus lays the foundation for clearness and precision of thought. In the experience of the child, making pictures or outlines of objects is the first attempt at linear symbolization. Hence, drawing is the natural approach to writing. Pestalozzi was the first to insist on this important reason for teaching drawing to all children before they are taught writing. Furthermore, he considered drawing as the best approach to the study of geometry.

So far as method of teaching drawing is concerned, Pestalozzi did not contribute much of permanent value. The fact is that he could not draw. As a consequence, he was obliged to rely on his assistants to carry out his instructions, which were not always valuable. His passion of searching for an alphabet in all subjects has already been mentioned. For drawing, he attempted to form such an alphabet by copying lines, angles, and curves. These the children were required to practice, with interminable repetition, until they had acquired thoroughgoing skill. Then, in accordance with his principle of "unbroken continuity and scarcely perceptible advance," they gradually drew more complex figures. The free drawing of objects was rigidly excluded. That Pestalozzi should have sanctioned such a stupid, unnatural, and deadening procedure is strange; yet it appeared to harmonize with his principles, and with his desire to "mechanize instruction."

Language. Pestalozzi transformed the use of language in education. It was logical for him to prefer the modern languages to the ancient, because the ideas expressed by the modern languages are nearer to the experiences of the child. For this same reason he was most interested in the use of the mother tongue. His own institutions, by necessity, had to be bilingual, using both French and German.

Many before him had pointed out the danger of teaching the child words dissociated from content. This has been the most grievous error of the traditional schools. This practice Pestalozzi condemned: [30]

> Whenever we put empty words into a child's mind, and impress them upon his memory, as if they were real knowledge, or genuine means of acquiring it, even when neither his feelings nor his experience of things are in a position to furnish clues to their meaning, we are obviously deviating from the principle, "Life Teaches." We are sowing the seeds of an artificial use of the Divine gift of speech. We are sowing the seeds of callous insincerity and shallowness to which is due so much of the blundering arrogance which is characteristic of our time.

Symbols must not precede the objects they signify, nor must words precede things. Similarly, the memorizing of definitions without the mental activities which formulate the definitions is not only meaningless, but positively harmful and immoral. Mere book knowledge is an actual hindrance to the development of the mind.

All this had become much clearer after John Locke explained the relations of ideas and words. Pestalozzi, however, was the first to recognize the real function of language in the development of the mind. He associated the sense image with the name of the object. This practice, of integration of language with primary perceptive processes, at once fixes and clarifies the ideas. Language, in fact, is the first and best means for reaching clear ideas. Pestalozzi boasted that his method made "greater use of language as a means of raising the child from vague sense-impression to clear ideas" than had ever been attempted before. He taught elementary teachers and pupils to talk in familiar terms about the objects of the school, the home, and nature. These informal discussions were designed to give the children positive skill in the expression of their ideas.

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[30] Pestalozzi, J. H., *The Swan Song,* p. 293.

In correlating the growth of language in the individual with his perception of objects, Pestalozzi made a significant advance, but he erred in that he considered this the only way in which the child could learn the use of language. He said: [31]

> The natural progress in learning his mother tongue, and the educational advantages thereof, are limited by his sensory acquaintance with the things about him. Just as the child requires many years to get clear ideas of the objects of his environment through varied contact with them, so it requires many years to bring him to the point of being able to express himself with accuracy about them. . . . To extend and quicken his direct knowledge of things is the only true method of furthering in a natural way, the acquisition of the mother tongue.

So great was Pestalozzi's absorption in the beginnings of education, and consequently so restricted was his vision, that he could not see how, in more advanced instruction, the development of language might proceed with little or no reference to things.

Pestalozzi considered the knowledge of nature the center of the course of studies for intellectual growth. He did not understand that social life played a larger role than did external nature in man's evolution upward from the primitive level. It was this lack of insight which caused him to undervalue play, the fairy tale, the story, history, and literature as means for the cultivation of language.

Music. Like language, music springs from the perception of sound. Pestalozzi did not himself work out the method of singing, but permitted others to do so in accordance with his principles. The lessons began with the observation of tone, and proceeded to the relation of time and melody. Notation followed. In his institutions Pestalozzi made much of music and wished to see it developed by gradual steps from "the nursery lullabies to a series of national songs, that should rise in the cottages of the people, from the gentle cradle song to the sublime hymn of praise."[32] His followers who worked out the system had remarkable success, and the Pestalozzian method became popular in both Europe and America.

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[31] *Ibid.*, p. 293.

II. Development of Practical Power

As Pestalozzi looked upon the wretchedness of the lower classes, his heart was moved to find some means to prevent its continuation in the new generation. He believed the causes of the misery of the people lay in their own shiftlessness and lack of capacity for individual self-help. This incapacity was due to the impractical training that they received in home and school. His "pet scheme," he said, was "that of a school for poor boys" which would train them in various industries. To the end of his days his plans always reverted to this central dream. The riper insight of middle life and his own practical experience brought him to see that mere trade training of itself would not be sufficient to lift up the downtrodden. The real disease of human incapacity was too deeply seated to be eradicated by giving men a certain amount of technical skill. A deeper need in the nature of man must first be met. The individual must become a self-respecting, intelligent, social unit. He must possess a conscious sense of morale arising from efficient participation in communal life. Pestalozzi saw, what later educational experience has many times confirmed, that the development of the lower classes can be efficiently brought about only as they have some opportunity to speak the language and to know the thoughts of cultured life. Such training is even more essential than preparation for industrial production. For this reason Pestalozzi turned his attention to the general education of the masses, but, in doing so, he did not decrease the importance of training in practical activities.

Strange to say, no English term or phrase has been found which precisely expresses what Pestalozzi meant by *Fertigkeit.* "Motor activity," "practical power," "productivity," "industrial training," "creative activity," and other words have been used, but none of these has found general acceptance. *Fertig-*

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[32] Pestalozzi, J. H., *How Gertrude Teaches Her Children,* p. 204.

keit means skill, readiness, or capacity for performance, for execution, or for production. What Pestalozzi had in view was that every impression must find expression in action. Man is not a creature who merely thinks. Thought must complete itself in action—that is to say, in doing. But even this does not tell the entire story. As Pestalozzi saw the process, thought or knowledge is developed in and by means of the common activities of life. One learns to know by doing. This insight came to him in his experience at Stanz: [33]

> I knew how useful the common needs of life are in teaching man the relations of things, in bringing out their natural intelligence, in forming their judgment, and in arousing faculties which, buried, as it were, beneath the coarser elements of their nature, cannot become active and useful till they are set free. It was my object then to arouse these faculties, and bring them to bear on the pure and simple circumstances of domestic life, for I was convinced that in this way I should be able to form the hearts and minds of children almost as I wished.

It was Pestalozzi's dearest wish to work out a system of lessons for the development of practical power in the child. He would begin with the earliest movements of arms and hands, and gradually build up to complicated constructive activities. The mind and the bodily activities, would be associated with the living needs. The opportunity never came for him to construct such a system. However, through his disciples Fellenberg and Froebel, this aspect of his pedagogy was made effective.

III. Theory of Moral and Religious Development

The third constituent element of the human organism recognized by Pestalozzi is the moral-religious. The development of this important side, he explained, is "the Keystone of my whole system." In familiar terms, this aspect is called "the heart," by which is meant the emotional nature and, more especially, those emotions which have to do with the will and the social life—in other words, the relations of the individual to other persons. In spite of the peculiarity of his ideas and the fervent language in which they are expressed, Pestalozzi has given the world a plausible view of the origin of these most significant of human capacities. Unfortunately for education, the development of ethical life from the standpoint of personal relationships has not received the attention it deserves. Rousseau, Pestalozzi, Herbart, and Froebel have all elaborated theories of social training, but these have been neglected in favor of other aspects of pedagogics.

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[33] DeGuimps, Roger, *op. cit.*, p. 151.

In formulating his educational process for the moral-religious nature, Pestalozzi proceeded just as in the case of the intellectual and practical powers: first of all, he sought the beginning elements. These concrete elements are the instinctive feelings or emotions which arise in the infant because of his relation to his mother. At birth the human is the most helpless of all animals. This condition of helplessness and its prolongation over many years have had a rich compensation in the increased helpfulness and protection which the human mother gives her offspring. It is, in fact, just this condition that creates and perpetuates the qualities which are distinctively human. From this close relation to the mother, the infant derives a sense of dependence; and out of this, in response to her care, emerges a feeling of love for the mother. Her protection in time of danger produces a feeling of trust and gratitude. The firmness of the mother in her ministrations stimulates an attitude of patience and obedience. Such is the genesis of the fundamental emotions, which make the child human and personal. From these original virtues, love, trust, gratitude, patience, and obedience, develop the higher aspects of the moral, social, and religious life.

As the activities of the child increase with his growing powers, his dependence upon the mother decreases, and finally vanishes. The expansion of his activities brings with it many new and higher needs, which can be satisfied only by dependence upon other people and upon the goodness of the Creator. It is the supreme art of pedagogy to transfer the original emotions, which have grown out of dependence upon the mother, to mankind first and then to God Himself. In this way, love, trust, gratitude, and obedience become the basis of social life and institutions, and the motivation for all conduct and learning. Sympathy and altruism are the higher, sublimated developments. From these arise man's sense of the ideal and his conscience.

In basing religion on these emotions, Pestalozzi agreed with Schleiermacher, the most celebrated German theologian of the 19th century, who defined religion as a feeling of dependence upon God. In this point of view, Pestalozzi opposed the dogmatism of the traditional theology and the rationalism of the Enlightenment. Belief in God is not the result of pure reasoning processes, nor is it an intuition. It is the product of a will that finds itself impelled to seek perfection but is dependent upon the Infinite for the satisfaction of its strivings. Faith, not reason, is the faculty by which man apprehends his Maker.

If religion is an emotion, it cannot be taught. Such was the startling conclusion drawn by Pestalozzi. This placed him in opposition to the most cherished practices of the church. During all the preceding centuries the church had taught religion by catechism, sermon, Psalms and other Scriptures, by attendance at services, and by the partaking of sacraments. Morals, too, had been inculcated by instruction. There was great dudgeon when Pestalozzi abandoned the Heidelberg catechism. True to his theories, he asserted, "I taught neither morality nor religion." He believed that emotions must be aroused by personal situations, and must be experienced before they can become the subject of intelligent discussion for younger children.[34]

> I strove to awaken the feelings of each virtue before talking about it, for I thought it unwise to talk to children on subjects which would compel them to speak without thoroughly understanding what they were saying.

Furthermore, it is important to understand that the development of these fundamental emotions comes, in point of time, before the intellectual growth.[35]

> The first instruction of the child should never be the business of the *head* or of the *reason;* it should always be the business of the senses, of the *heart,* of the *mother.*

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[34] *Ibid.,* p. 159.

[35] Pestalozzi, J. H., *How Gertrude Teaches Her Children,* p. 189.

The priority of the development of the emotions is likewise required by the central position they occupy in the subsequent functioning of the organism.

Home life the center of education. The three general aspects of human nature—intellect, practical power, and the moral-religious nature—are not of equal rank in the organism. All are essential to man's well-being, but the emotional life is primary. It furnishes the power and the motive for the activity of the intellect and practical life. Only when these two function in subordination to the first, does man have the harmonious development which brings inner peace and happiness. Moreover, the only place where the human being can unfold his powers in a perfectly natural manner is the home. The love of the mother evokes the emotions of the child, and develops them in their proper relation. The activities that center in the home furnish opportunities for the awakening of the senses and for the exercise of judgment and knowledge. These activities are the best means for the training of practical power and production.

It is well to bear in mind that Pestalozzi had in view the home as it existed before the Industrial Revolution. The home at that time was the place of varied industrial activities, which have since been transferred to specialized factories. This home was the one ideal environment which could supply the all-round stimulation of the child's powers to perfect functioning. To give mothers a method of education so simple and definite that every one could develop her own child "in the sanctuary of the home" was "the sublimest ambition" of Pestalozzi's heart.

3. The Influence of Pestalozzi

Education's most successful failure. Pestalozzi must be awarded the prize as the champion of successful failures. Every enterprise he undertook came to grief. Yet he was honored by kings, governments, and savants, and his system of instruction was put into operation in many lands. Moreover, no one had more to do with the spread of the common school system. Surely here is a paradox which requires explanation.

Causes of failure. There are numerous reasons to account for Pestalozzi's failures. His strange personality and numerous idiosyncrasies caused many to ridicule him. His loquacity, emotionality, and slovenliness turned others against him. An inability to express himself clearly, and, back of this, a certain confusion in his ideas produced misunderstanding and lack of confidence. On the other hand, those who had the discernment to look deeper were captivated by the nobility of his purposes, and saw in his principles the only dependable means for human progress.

The Yverdun institute was his greatest and most enduring achievement. Yet, it was not in operation very long before grave signs of weakening appeared; it lasted only twenty years in all. Many weaknesses contributed to its failure. (1) First, the duality of language caused difficulties. Both French and German were commonly used in the institution. (2) Second, the universal interest of the public in the institution, and the exalted approval of royal personages, celebrities, and governments—shown by their visits and by their sending students to be trained in the school—turned the heads of Pestalozzi and his associates. So numerous were the visitors who came to see the new methods that the regularity of instruction suffered from interruptions. The school was turned into a show place. (3) Third, bad as were these conditions, even more serious causes of discord were present. As the school grew in size and complexity, Pestalozzi was unable to continue the simple home spirit. Pupils came from many lands; hence it was difficult to unify the spirit of the group. The home atmosphere on which Pestalozzi counted so heavily was forgotten. As early as 1808, when standing beside an open coffin, as though he expected to die immediately Pestalozzi bitterly moaned: "This work was founded by love, but love has disappeared from our midst."[36]

So long as the institute remained small and simple, Pestalozzi was able by force of his amiable personality to adjust at once every incipient discord. But when the school entered into an experiment in institutional self-government as a constitutional state, the atmosphere of home life and order ceased to exist. In speaking of the decline of the home spirit, Ramsauer, a student and teacher, has written:[37]

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[36] DeGuimps, Roger, *op. cit.*, p. 277.

> This ceased when the family life was transformed in the institution into a constitutional state existence. Now the individual was more easily lost in the crowd; thus there arose a desire on the part of each to make himself felt and noticed. Egotism made its appearance every day in more pointed forms. Envy and jealousy rankled in the breasts of many.

(4) Fourth, with the passing of the personal control exercised by Pestalozzi, there arose between two of the staff bitter dissension as to which one better represented Pestalozzi's ideas and should control the school. It was these quarrels, due to the egotism and selfish ambition of his chief assistants and their friends, that paralyzed the work for so many years and finally destroyed this celebrated experimental school.

Summary and criticism. When one undertakes to set down in concise form the central contributions of Pestalozzi, he is apt to do what others have done—take refuge in the excuse that, after all, the distinctive feature was the life and not the doctrine of the man. A recent writer, Holman, has emphasized the tentative nature of his principles: "It is not too much to say that Pestalozzi began everything, though he finished nothing."[38] Pestalozzi himself was not unaware of the unsatisfactory statement of his principles: "To my grave," he acknowledged, "I shall remain in a kind of fog about most of my views." It is conceivable that a man might have the ability to stimulate others in his own day to see great principles, even though he was not altogether clear about them himself. Moreover, the vital character of Pestalozzi's insight is attested by the perennial interest in his principles: every new generation has seen new books on his life and system, as well as the republication of his own works, which belong to the literature of power, not to the dead annals of history.

The following summary of his principles is offered as a general review:

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[37] Quoted by Holman, H., *Pestalozzi; An Account of His Life and Work,* p. 108. London, Longmans, Green and Co., 1908.

[38] Holman, H., *op. cit.,* p. 312.

(1) Above all, Pestalozzi had an indomitable and infectious faith in education as the supreme means for individual and social betterment. Von Raumer has stated the point as follows: [39]

> He compelled the scholastic world to revise the whole of their task, to reflect on the nature and destiny of man, as also on the proper way of leading him from his youth towards his destiny.

By his enthusiasm this eccentric philanthropist was able to induce kings and rulers in their palaces to take an interest in the education of children in hovels. He democratized education by proclaiming that it is the absolute right of every child to have his God-given powers fully developed.

(2) He psychologized education. When there was no psychological science worthy of the name, and although he had but the vaguest notions of the nature of the human mind himself, Pestalozzi saw clearly that a correct theory and practice of education must be based upon such a science. He discerned that the method of inculcating knowledge into children is, not by furnishing them the ready-made statements of adults, but by developing, unfolding, and strengthening the powers of the child mind through exercise in the normal activities of life. Pestalozzi was the first educator to make systematic observations of the growth of children.

(3) He was the first to conceive the idea of organic education. He opposed, as hostile to true education, the overemphasis of the traditional method upon memory, the exclusive appeal to the understanding, and all similar one-sided methods of training. He was the first to appreciate the interrelation of the various aspects of the human organism, and the normal functioning of all powers in harmony. For this reason he demanded the equal development of all powers—head, hand, and heart—so as to produce a personality adjusted harmoniously within and capable of living a worthy life in society. Inasmuch as the development of each child would differ according to his nature, Pestalozzi insisted that individuality must be respected.

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[39] Quoted by Holman, H., *op. cit.*, p. 307.

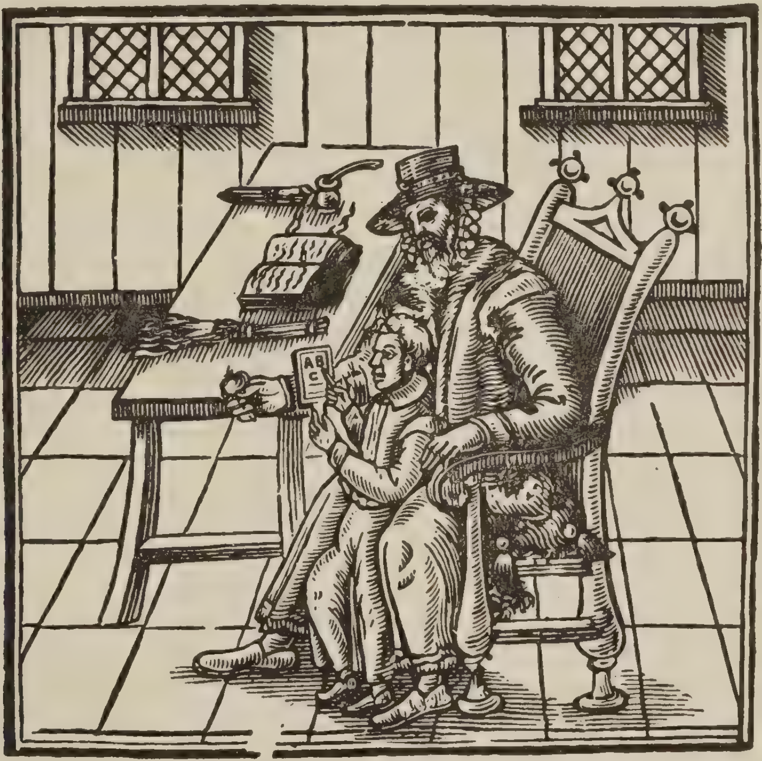
(4) He sought to find the origin or germ of every human capacity and, in each case, to begin the process of education from this point. According to Pestalozzi, the intellectual life begins in sense impressions; the practical power, in the simple movements of arms and legs; and the moral-religious nature, in the emotions which arise in the child's relation to his mother. All the subjects in the course of study have their origin in these three springs of human experience; all of them begin to function in the home, and they ought to function together, not separately.

(5) The concrete always precedes the abstract. For this reason, education begins with the perception of concrete objects, the performing of concrete acts, and the experiencing of actual emotional responses. Words or languages are but symbols, and are empty unless associated with actual experiences. Pestalozzi regarded this idea as his greatest contribution to education. It revolutionized the teaching of geography, arithmetic, and nature study.

(6) Development is a gradual building up of power. Every form of training and instruction must proceed in a slow, gradual course, concurrent with the unfolding powers of the child. No step shall be taken until he is fully ripe to master the new idea or activity. From this principle have come the grading of the modern school into classes, and the grading of the elementary curriculum to synchronize with the power of achievement of each class. As drawing is simpler than writing, drawing shall be taught first, as an introduction to writing. Similarly, reading shall be subordinated to oral teaching, inasmuch as oral communication is more direct and primordial. For this reason Pestalozzi excluded all textbooks.

(7) Religion is deeper than a series of dogmas or a creed, or the memorizing of the catechism or the Scriptures. It is an inner emotion which expresses itself in an outer attitude or relation. It should, therefore, not be impressed from without, but developed from within. Pestalozzi demanded that religious feelings be awakened before words or symbols are brought to the child. Moreover, he insisted that the development of these primary emotions is brought about by taking advantage of life situations, personal relationships, and actual experiences, rather than by the traditional methods of the church.

(8) Several new devices of method were originated by Pestalozzi. He employed the letters of the alphabet fastened on cards, and introduced the use of slates and pencils. The most important innovation was that of simultaneous, or class, instruction. The practice in elementary teaching before this time had been to call up each individual in turn, and to give him the needed instruction or to hear him recite. This was more in accord with the memoriter method, but the oral method of Pestalozzi was better fitted for class organization.



Old-Time Method of Individual Instruction.
(Note the convenient bunch of switches.)

(9) Pestalozzi revolutionized discipline, basing it upon the mutual sympathy of pupil and teacher. No teacher was permitted to punish a child, but every infraction of order was dealt with by persuasion and personal counsel. Punishment was resorted to only in extreme cases.

(10) Pestalozzi gave a new impetus to the training of teachers and the study of education as a science. His work at Yverdun was used as the model for the normal schools of Germany; in fact, the reform in Prussia commenced with the establishment of a number of new normal schools for teachers. His ideas, tentative and indefinite as they were, stimulated the greatest effort to investigate the science of education. Among the students thus influenced were: Herbart, Froebel, Madame de Staël, Fellenberg, Diesterweg, Uno Cygnaeus, De Guimps, Mayo, and Neef.

Respect paid to Pestalozzi. He was the recipient of many honors. As early as 1792, long before he entered upon his celebrated work of educational reform, he was made a "Citizen of the French Republic" along with Kosciusko, the Polish patriot; Schiller, the German poet; Wilberforce, the philanthropist; and George Washington. In 1814, he was knighted by Alexander, Tsar of Russia, who sent him an autographed letter. Nothing, however, so determines the exalted position he held as the reverence and respect paid to him by many of the greatest minds of the times. Among those who knew him best and revered him most were Fichte and Herbart, both celebrated philosophers; Nicolovius and Süvern, high officials of the Prussian Government; Friedrich Froebel, the educator; and Karl Ritter, the celebrated geographer. Ritter, who made a number of visits to Pestalozzi and respected him greatly, writes of his indebtedness to Pestalozzi: [40]

> I have seen more than the paradise of Switzerland, for I have seen Pestalozzi, and recognized how great his heart is, and how great his genius; never have I been so filled with a sense of the sacredness of my vocation, and the dignity of human nature, as in the days that I spent with this noble man.

Speaking, forty years later, of his own work on geography, Ritter said:

> Pestalozzi knew less geography than a child in one of our primary schools; yet it was from him that I gained my chief knowledge of this science, for it was in listening to him that I first conceived the idea of the natural method. It was he

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[40] DeGuimps, Roger, *op. cit.*, pp. 263–264.

who opened the way to me, and I take pleasure in attributing whatever value my work may possess entirely to him.

Nothing shows better than the tribute of his countrymen the great admiration in which Pestalozzi was held. The inscription on his tomb reads: [41]

Here Rests
HENRY PESTALOZZI
Born at Zurich, the 12th of January, 1746
Died at Brugg, the 17th of February, 1827

Saviour of the poor at Neuhof, at Stanz the father
of orphans, at Burgdorf and Munchenbuchsee
founder of the popular school, at Yverdun
the educator of humanity; man,
Christian, and citizen. All for
others, nothing for himself.
Peace to his ashes.

TO OUR FATHER PESTALOZZI

Grateful Aargau

The spread of the new method in Europe. The influence of Pestalozzi's reforms upon education was far reaching. Deputations were sent from many lands to examine and report upon his methods. In 1807–1808, when Prussia was crushed under the heel of Napoleon and while French soldiers paraded *Unter den Linden,* Fichte boldly addressed the German people and urged them to adopt the methods of Pestalozzi. In 1808, the Prussian Government, under the authorization of the king, began to send carefully selected young men to Yverdun to be trained by the master himself. Pestalozzi's old friends, Nicolovius and Süvern, were in charge of this movement to secure trained teachers. No less than seventeen young men were sent to the training institution at Yverdun, and all of them spent three years there at the expense of the government. Many of them became noted educators. The schools of Prussia were reorganized, Pestalozzian methods were adopted, and normal schools were established to train new teachers. So great was the influence of Pestalozzi in reshaping the system of Prussian education that Diesterweg was constrained to call it the "Prussian-Pestalozzian school system." And he has stated: "Whatever of excellence or eminence they have, they really owe to no one but to him."[42] Scores of other young Germans found their way to Pestalozzi, and later became the leading teachers in the various German states and cities.

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[41] *Ibid.,* p. 367.

The cantons of Switzerland very largely accepted Pestalozzi's methods for public instruction, and established normal schools to train teachers. In time, economic and social conditions were transformed, and the Swiss people became a living testimony to the success of the fundamental principles of their indomitable compatriot.

The influence of Pestalozzi was increased in Switzerland by the success of the institutions of Baron von Fellenberg. He made several unsuccessful efforts to coöperate with Pestalozzi in his undertakings, but the two were so incompatible in temperament that they could not work together harmoniously. Nevertheless, Fellenberg conducted an agricultural and industrial institute, at Hofwyl, entirely after the plans of his eccentric master. He had in view especially practical training and the need of vocational preparation in all grades of society. In addition to farming, there were established printing, tailoring, shoemaking, and other lines of work. With this practical training went the education of the common school branches.

Fellenberg's school exercised an importance next to that of Pestalozzi, not only in Europe but in America as well. Its influence in popularizing agricultural education in America was very great.

France and England were less affected by Pestalozzi. The various efforts to interest Napoleon utterly failed; he was too busy with his own great affairs to care for Pestalozzi's childish *ABC*'s. But a few, more discerning Frenchmen introduced the new education among the French people. M. A. Jullien, a knight of the Legion of Honor and a man of wealth and influence, took twenty-four students to Yverdun for an entire year. Among other disciples of Pestalozzi were Chavennes and Maine de Biran.

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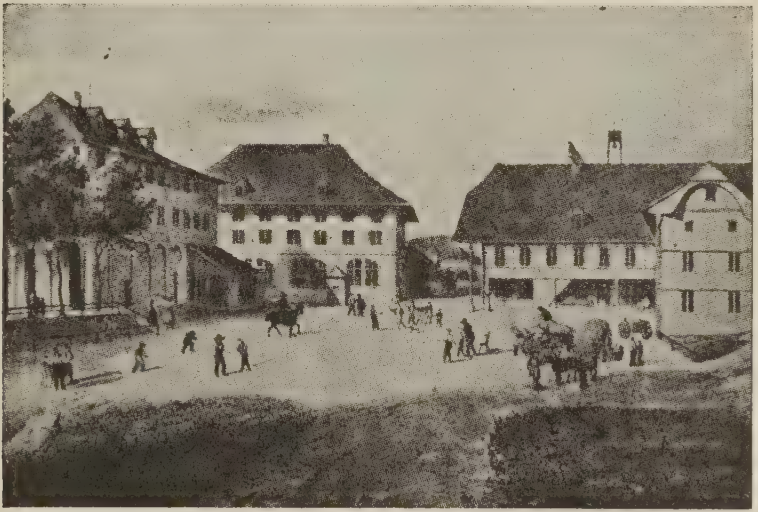
[42] Diesterweg, A., "Pestalozzi and the Schools of Germany," in Barnard, Henry, *American Journal of Education* (1857), Vol. 4, pp. 343–358.

So far as England was concerned, about the same interest was manifested as in France. But the movement in England was of greater moment for American education, since it became the connecting link for the development of Pestalozzianism in our country. J. P. Greaves, an Englishman, spent some years at Yverdun, and later carried the new principles back to his native land. At his request Pestalozzi wrote *Letters on the Early Education of the Child,* which is one of the best statements of his views on infant education. It was, however, Dr. Charles Mayo and his sister, Elizabeth Mayo, who had most to do with the transplanting of the Pestalozzian system in England. Dr. Mayo long conducted a school for boys and was active in the establishment of the Home and Colonial Training College for the training of teachers in the Pestalozzian method. He lectured and also published texts and other books. There are two special reasons for directing attention to this activity of the Mayos. First, they formalized and mechanized all genuine life out of the Pestalozzian method; secondly, through their work the system finally made a direct impact upon American education.



FELLENBERG'S INSTITUTE AT HOFWYL.

Other countries affected by the new method were Russia, Poland, Spain, and Italy. Compayré, who has written most appreciatively of the work of Pestalozzi, states: "There is scarcely a district of Europe, in the North as well as in the South, which has remained foreign to the movement."[43]

4. Pestalozzianism in the United States

A knowledge of Pestalozzi's principles and practices came to the attention of American educators slowly and in disconnected ways. For a long time there was no concerted effort to introduce the new method, and it can scarcely be said to have attained the dignity of a movement. The various efforts to introduce the new ideas may best be divided into four phases: (1) The work of Maclure and Neef; (2) Educational literature on Pestalozzi; (3) The teaching of special subjects; (4) The Oswego movement. These will now be discussed more fully.

1. The work of Maclure and Neef. The first attempt to introduce the Pestalozzian system into America was made by William Maclure, who employed Joseph Neef, for some time an associate of Pestalozzi himself. Maclure was a Scotchman by birth, but came to Philadelphia as a youth of nineteen to engage in business. He accumulated a large fortune before he was forty, and spent the remainder of his life in the pursuit of two dominant interests, the reform of education and the study of the geology of North America. In the latter field, he made the first geological surveys on this continent. While engaged in 1804 in a diplomatic mission to France, his attention was called to Pestalozzi's method of instruction.[44] He visited Pestalozzi at Yverdun, and Fellenberg at Hofwyl, a number of times, and invited Pestalozzi to come to Philadelphia to establish a school. Pestalozzi declined, on account of age and other difficulties, but recommended the appointment of Neef, who was conducting an orphanage on Pestalozzian principles in Paris. He had been a soldier under Na-

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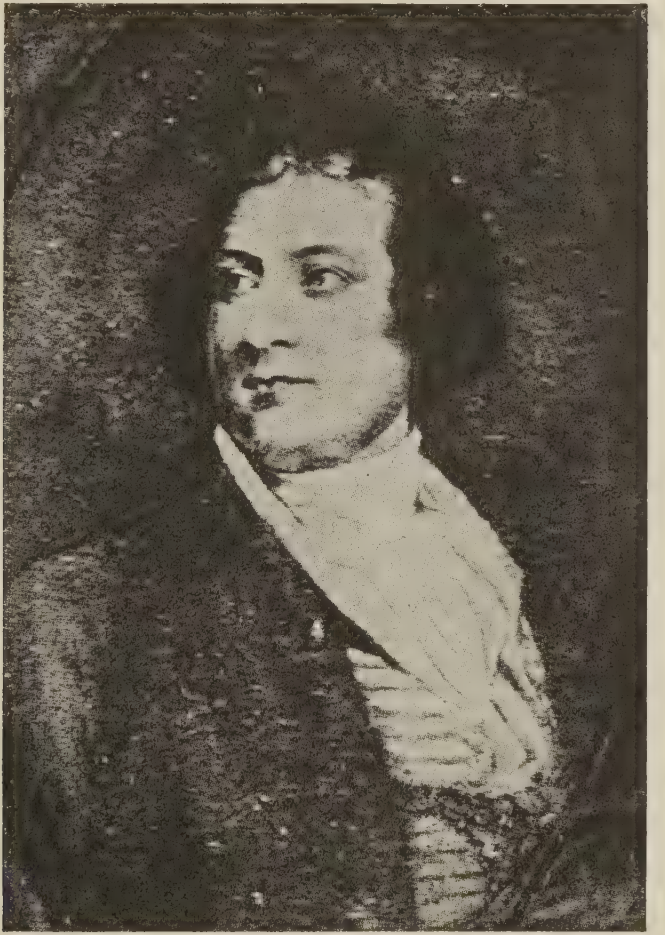
[43] Compayré, G., *Pestalozzi and Elementary Education,* p. 105. Translated by R. P. Jago. New York, Crowell, 1907.

[44] The story told by P. Pompée, in his *Etudes sur la Vie et les Travaux de J. H. Pestalozzi,* is substantially as follows: Having expressed to the American ambassador a great desire to see Napoleon, Maclure was invited to accompany him on the occasion when he knew the emperor and Talleyrand had arranged to visit the Pestalozzian orphanage conducted by Joseph Neef. During the occasion Maclure was so absorbed in watching Napoleon that he failed utterly to observe the school work. When the party was leaving, he heard Talleyrand remark to the emperor, "It is too much for us." Stuck by this statement, Maclure



WILLIAM MACLURE.

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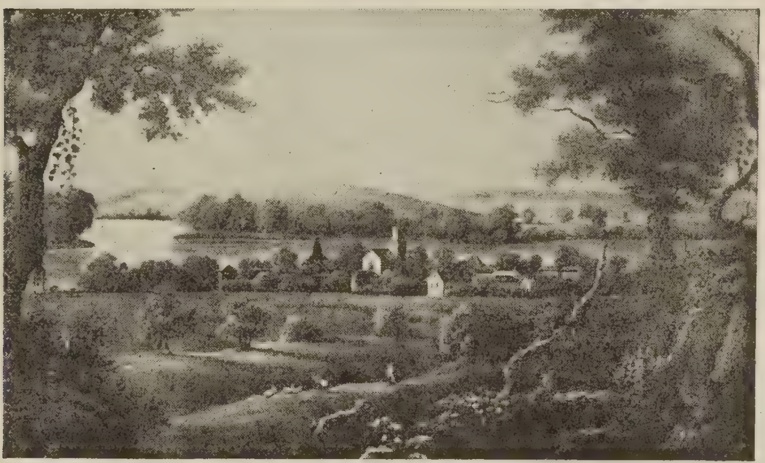
returned to study the method of the school and became deeply interested. The story is probably true, but it has lacked final confirmation. See Monroe, Will S., *History of the Pestalozzian Movement in the United States,* pp. 66-68. Syracuse, C. W. Bardeen, 1907.

poleon, and later had taught music, gymnastics, and French at the Burgdorf institute under Pestalozzi. Neef accepted the invitation and came to Philadelphia in 1806. It may be added that Maclure published during that same year, in the *National Intelligencer,* the first account of Pestalozzi to appear in America. Two years later, and as a forecast of the opening of the school, Neef published a *Sketch of a Plan and Method of Education.*

The new school was opened in the suburbs of Philadelphia in 1809, and proved an entire success. Unfortunately, due to his desire to have his pupils in the country, Neef removed the school to Village Green near Chester, Pennsylvania. In the new setting the institution rapidly declined in patronage. Neef was induced to make a fresh start in Louisville, Kentucky, which at the time was a struggling frontier town. This effort was also a failure, and for a time Neef took up farming.

In the meanwhile the restless Maclure visited New Lanark, Scotland, and made the acquaintance of Robert Owen and his experiment in industrialism and education. These two philanthropists found they had much in common. Maclure renewed his visits to Fellenberg's institute at Hofwyl, and became more and more deeply interested in plans for industrial and agricultural education. He and Owen—who, by the way, had his two sons educated in the Hofwyl school—now embarked upon the most fantastic educational experiment ever undertaken in this country. Owen had become thoroughly converted to the idea of regenerating the human race. He believed this could be accomplished by a right method of education and a coöperative organization of society. He explained: "The world is, as it appears to me, full ripe for a great moral change, and it may be, I think, commenced the more advantageously in the new world."

Pooling their plans, these two great-hearted philanthropists set up in southern Indiana, at a place called New Harmony, a double experiment—a communal society with an industrial-agricultural school. Responsibility was divided, Owen taking charge of the social-economic organization, and Maclure, the educational features. Both put large sums of money into their work. Neef was called from his retirement to conduct the education of the children of this miniature communistic state. In spite of the great expenditure of money and the promise of a new era for humanity, the strange undertaking soon failed. Though the effort was quickly forgotten, it is impossible to believe that there was no fruitage whatever. At least, the idea of industrial-agricultural training thus introduced took powerful hold of the minds of many Americans, and led to numerous early adventures in school organization.[45]



New Harmony, Indiana.

2. Educational literature on Pestalozzi. Another means for the spread of Pestalozzi's views in America was through educational literature, especially magazine articles and reports. In 1813, Neef published *Method of Instructing Children Rationally in the Arts of Reading and Writing.* In 1819, a number of articles, written by an anonymous author, appeared in a magazine called *The Academician.* This writer had never visited Pestalozzi, but he was quite familiar with the literature then available. In 1818–1819, John Griscom visited Europe, and four years later published the result of his observations in two volumes entitled *A Year in Europe.* He gave an elaborate account of the schools of both Pestalozzi and Fellenberg. These volumes made a deep impression on Americans. Another educator who visited Pestalozzi and spread his doctrines was William C. Woodbridge, who for many years edited the *American Annals of Education.* However, the principles of Pestalozzi were chiefly spread, so far as literature went, indirectly through the writings of Americans who studied the effects of his methods on the schools of Europe. The reports of Victor Cousin, Calvin E. Stowe, A. D. Bache, Henry Barnard, and Horace Mann gave the widest currency to the new system, even though they did not treat directly of Pestalozzi's principles.

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[45] It is interesting to note that Robert Owen was confirmed in his views, despite the expensive failure at New Harmony. He requested the Mexican Government, in 1829, to give his organization the state of Texas for the creation of a communistic state in which his views might be realized and mankind set forward in a new era. This remarkable project was to be under the joint guardianship of Mexico, the United States, and Great Britain. The Mexican Government was not willing to accede to his petition.

3. The teaching of special subjects. The Pestalozzian methods in geography and music were the first to be introduced into America. The credit for this work belongs to William C. Woodbridge (1794–1845), a graduate of Yale. He visited Pestalozzi in 1820, and again on several occasions between 1825 and 1829. Although deeply impressed with the entire system, Woodbridge's chief enthusiasm centered in geography and music. As a result of his interest, he published, in 1822, the *Rudiments of Geography,* and, two years later, the *Universal Geography.* Some years afterwards, he was associated with Emma Willard in publishing a series of geography texts for schools.

Up to this time geography had not been a regular subject of the American school curriculum. The work of Woodbridge produced a revolution in the teaching of the subject. About the middle of the century a further development in this line took place; it was due to the work of Arnold Henry Guyot (1807–1884), a Swiss professor of geography trained by Karl Ritter. He was employed by the Massachusetts State Board of Education to lecture on geography in the state normal schools. He helped to spread among a large group of teachers Pestalozzi's method in this subject, and his texts were the first works in the common school to treat geography as a science.

Woodbridge was interested in music also. At the first meeting of the American Institute of Instruction, in Boston in 1830, he gave a lengthy address on the Pestalozzian method of teaching music. Woodbridge did not develop this method himself; he succeeded, however, in arousing the interest of Lowell Mason (1792–1872), who had been teaching vocal and instrumental music in Boston for some years. When Woodbridge introduced Mason to the new method, "an event occurred which changed his whole manner of teaching, as well as his theory of the educational value of music." Woodbridge placed at his command the books and likewise the directions which he had received from the associates of Pestalozzi who had worked out the method in detail. Music, long neglected in Puritan education, soon reached a high point of development under Mason's influence; in fact, he became America's foremost creative artist in the field of public school music.[46]

William Russell and Hermann Krüsi, Jr., did much to bring Pestalozzian methods to this country. Russell established the *American Journal of Education,* which was the first pioneer educational publication to attain success. It contained a number of articles on Pestalozzi and also his *Letters* to Greaves, which was the first of his own writings to be published in America. For many years Russell conducted a private normal school at Lancaster, Massachusetts, in which he introduced the Pestalozzian system. His greatest contribution in this direction was in bringing Hermann Krüsi, Jr., son of Pestalozzi's assistant, to give instruction in his school. Krüsi was also employed to lecture in the state normal schools of Massachusetts. He spread a knowledge of Pestalozzian drawing and arithmetic. He engaged in this work for about ten years before going to the normal school at Oswego, New York, but for some reason this earlier work did not attract great attention.

4. The Oswego movement. Up to 1860, Pestalozzi's system had not been prominently introduced into American education. The closer acquaintance with the central features of his philosophy and practices came in a round-about manner.

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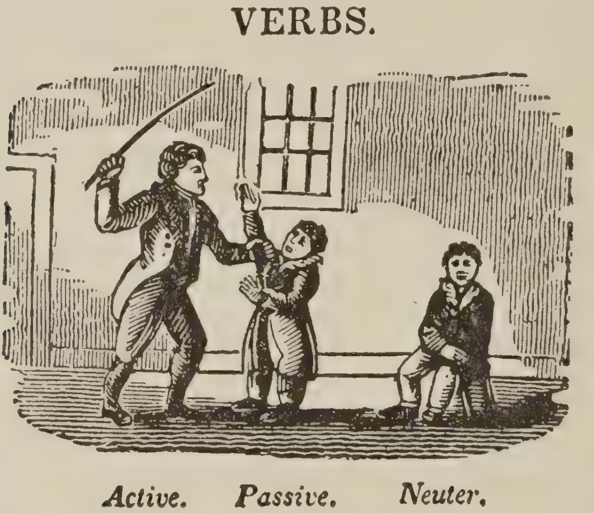
[46] In 1821, Warren Colburn wrote *First Lessons in Arithmetic,* for many years one of the most widely used texts. It had much the same effect in the United States that the Pestalozzian method of arithmetic had in Europe. There are evidences that Colburn must have been aware of the principles of the Swiss reformer, but direct connection has not been established.

For a number of years Edward A. Sheldon (1823–1897) had been the aggressive superintendent of the public schools of Oswego, New York. Dissatisfied with the methods in vogue and restlessly casting about for something better, he chanced to visit the provincial normal school, across the lake, in Toronto. Here in the museum, temporarily housed with the normal school, he found a display of materials for object lessons such as was employed by the Home and Colonial Training College, at Gray's Inn Road, London. This was an intriguing discovery. He learned of the work of the Mayos in England and of the Pestalozzian methods in the college. He procured at once their publications and appliances, and put the new method into practice in the training of his corps of teachers. He induced the school board to employ Miss M. E. M. Jones, who had been in the Home and Colonial Training College for many years, to come over to Oswego and train teachers in the methods of Pestalozzi, especially the method of object-lesson teaching. She remained only a year, but was followed by Hermann Krüsi, Jr., who continued the work for twenty-five years. With this new and vital idea, Oswego became the hot-bed of educational progress. The enthusiasm



The Little Grammarian, Illustrating an Absurd Use of the Sense-Perception Principle.

of its students was boundless, and the new method was carried by them to all parts of the country.

The interest in Pestalozzian methods continued until it was superseded by the incoming tide of Herbartianism, Froebelianism, and the new ideas of G. Stanley Hall and John Dewey.

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CHAPTER XVIII

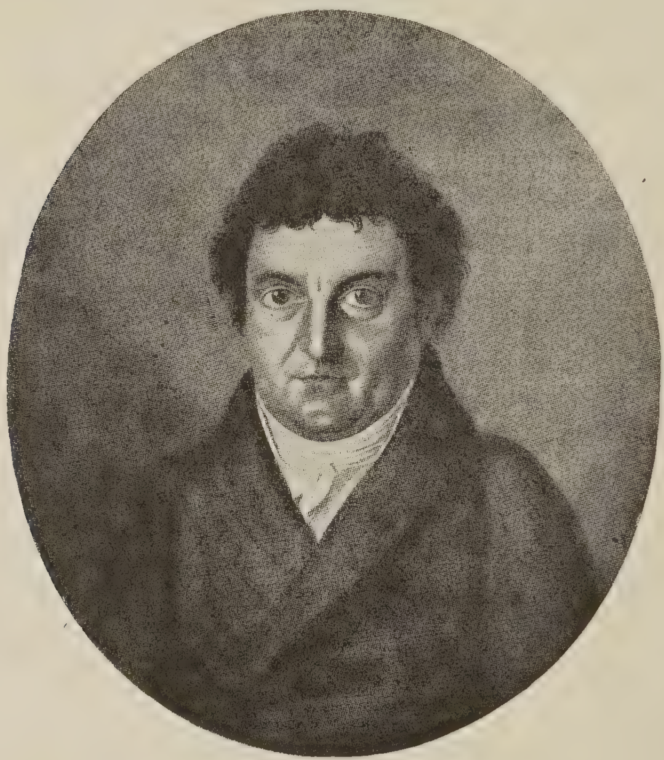
EUROPEAN DEVELOPMENTS DURING THE NINETEENTH CENTURY

During the past one hundred years the type of education developed by the peoples of western Europe has spread to all civilized lands. In the main, it gradually assumed more nationalistic characteristics and everywhere tended to separation from ecclesiastical control. The countries that led in the elaboration of education were Germany, Great Britain, France, the United States, Denmark, and Canada.

1. Formation of the German School System

The outstanding fact of European political history during the 19th century was the formation of the German Empire in 1870, and its emergence as a world power. This significant achievement was due chiefly to the development of Prussia and its hegemony among German states. It has been generally recognized, moreover, that the phenomenal rise of Prussia was due in large measure to the efficiency of its school system, which became the model for sister states. Its influence, however, extended far beyond the confines of the fatherland. In 1830 the Government of France commissioned Victor Cousin to make a study of the Prussian school system. His report had immediate effects not only in France but in America as well.

German *Volksschulen*. A powerful impetus was given to elementary education in Germany at the beginning of the 19th century. When, in 1806, Prussia lay bleeding from the bitter defeat by Napoleon, the philosopher Fichte, within sound of the French sentries on *Unter den Linden,* delivered his stirring addresses to the German nation. He declared that the only hope of salvation for his stricken people lay in the adoption of the Pestalozzian system of education. As a result the Prussians became a nation of schoolmasters and pupils. Within three decades the Prussian schools became the models for the entire world. All elementary schools were public and free. Illiteracy disappeared. School attendance was required of all children from six to fourteen years of age. The teachers, who were almost all men, were selected and trained with great care. Methods were humane and adapted to the cultivation of practical intelligence. The system was directed more and more to the instilling of national ideals.



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Enrichment of the elementary curriculum. Down to the time of Pestalozzi, elementary education was lacking in content. It consisted only of the four *R*'s—religion, reading, writing, and arithmetic. The general view had been that these subjects were sufficient. It was Pestalozzi's great service to bring enrichment to the curriculum by adding content and activity studies. The curriculum of the German elementary schools offered a broad and informing culture as well as a knowledge of the tool subjects.

The course outlined in the table on page 682 is typical, though there were variations from state to state. In the table, the classes are indicated in ascending order. The number of hours devoted to each subject of instruction is given for each week. Boys and girls attended separate schools. The italic numbers in parentheses in the table indicate the variation in amount of time required of the girls in the particular subject.

In the later decades of the century this system of popular elementary instruction was followed by special continuation and trade schools that furnished vocational training in the various arts and trades.

An aristocratic system. All German children did not attend the same elementary schools until after the World War and the establishment of the republic. The *Volksschulen* were designed only for the common people. The upper classes, who were to be trained for commercial, higher technical positions, state offices, and the professions, were educated under a different system. It has been customary to criticize the German system as aristocratic, because all classes of children did not commingle on the playground or in the classroom. To all intents and purposes the system was designed to continue the aristocratic social order. But it is easy to misjudge the German practice so far as educational opportunity was concerned. Gifted children, of superior intelligence, have always been selected from the *Volksschulen* to receive higher instruction in order to advance to a station commensurate with their abilities.

The educational system of Germany was of special significance in the evolution of schools in America during the 19th century. No other system had such profound influence. Thousands of Americans studied in Germany, and returned as enthusiastic advocates of German educational organizations and methods. There was still another way in which German culture and education directly affected the development of our institutions. During the century over six million German immigrants settled in the United States. Their descendants formed a significant portion of our total population. All levels of our school system, from the kindergarten through

BERLIN ELEMENTARY SCHOOL PROGRAM

	Lower			Middle		Higher		
	VIII	*VII*	*VI*	*V*	*IV*	*III*	*II*	*I*
1. Religion	3	3	3	4	4	4	4	4
2. German	8	7	7	6	6	6	6	6
3. Object-Lessons	2	2	2	--	--	--	--	--
4. History	--	--	--	2	2	2	2	3(*2*)
5. Arithmetic	4	4	4	4	4	4	4(*2*)	4(*2*)
6. Elementary Geometry	--	--	--	--	--	3	3(*2*)	3(*2*)
7. Natural Science	--	--	--	2	2	4	4(*3*)	3
8. Geography	--	--	--	2	2	2	2	2
9. Drawing	--	1	2(*1*)	2	2	2	2	2
10. Writing	--	2	2	2	2	1	1	1
11. Singing	1	1	2	2	2	2	2	2
12. Gymnastics	2	2	2(*1*)	2	2	2	2	2
13. Needlework	--	--	--(*2*)	--(*2*)	--(*2*)	--(*3*)	--(*4*)	--(*4*)
TOTAL	20	22	24(*24*)	28(*30*)	28(*30*)	32(*35*)	32(*32*)	32(*32*)

to the graduate school of the university, were profoundly affected by their policies and practices.

On account of their language and religion the Germans were inclined to be clannish and, for a considerable time, did not fuse with other peoples. When they formed colonies in our great cities and in agricultural areas, it was their habit to continue their cultural life by establishing their own distinctive institutions. As a great proportion of them were intelligent and since many of them came to this country primarily for political reasons, they have been loyal Americans in spite of their devotion to their inherited cultural life. Among the institutions which they set up were their parochial and German-American schools.[1] Many progressive German educators were instrumental in introducing to our people the principles and practices of Pestalozzi, Herbart, and Froebel. For this reason the evolution of education in Germany during the 19th century is of direct interest to American students.

Secondary school system. The efficiency of the secondary school system is one of the best means of measuring any system of education, for it is usually the last level to be highly organized. The German states have been noted for the efficiency of their high schools. During the early part of the 19th century, secondary instruction was confined chiefly to the gymnasiums, which were classical in type. Under the impetus of the neo-humanistic revival they had been brought to a high standard of efficiency. The realistic schools, on the other hand, were of little significance during this time.

By the middle of the century three important influences appeared to challenge the monopoly of the classical gymnasium. (1) The first of these was the vast increase in scientific knowledge and the application of science to industrial production. A similar attitude of superiority on the part of the Classicists and opposition to the sciences and the modern languages that arose in England and the United States also arose in Germany; yet an increasing demand likewise appeared for the incorporation of these modern studies in the higher schools.

(2) The second movement was the Industrial Revolution.

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[1] Consult Schuricht, Hermann, *Geschichte der deutschen Schulbestrebungen in Amerika.* Leipzig, F. Fleischer, 1884.

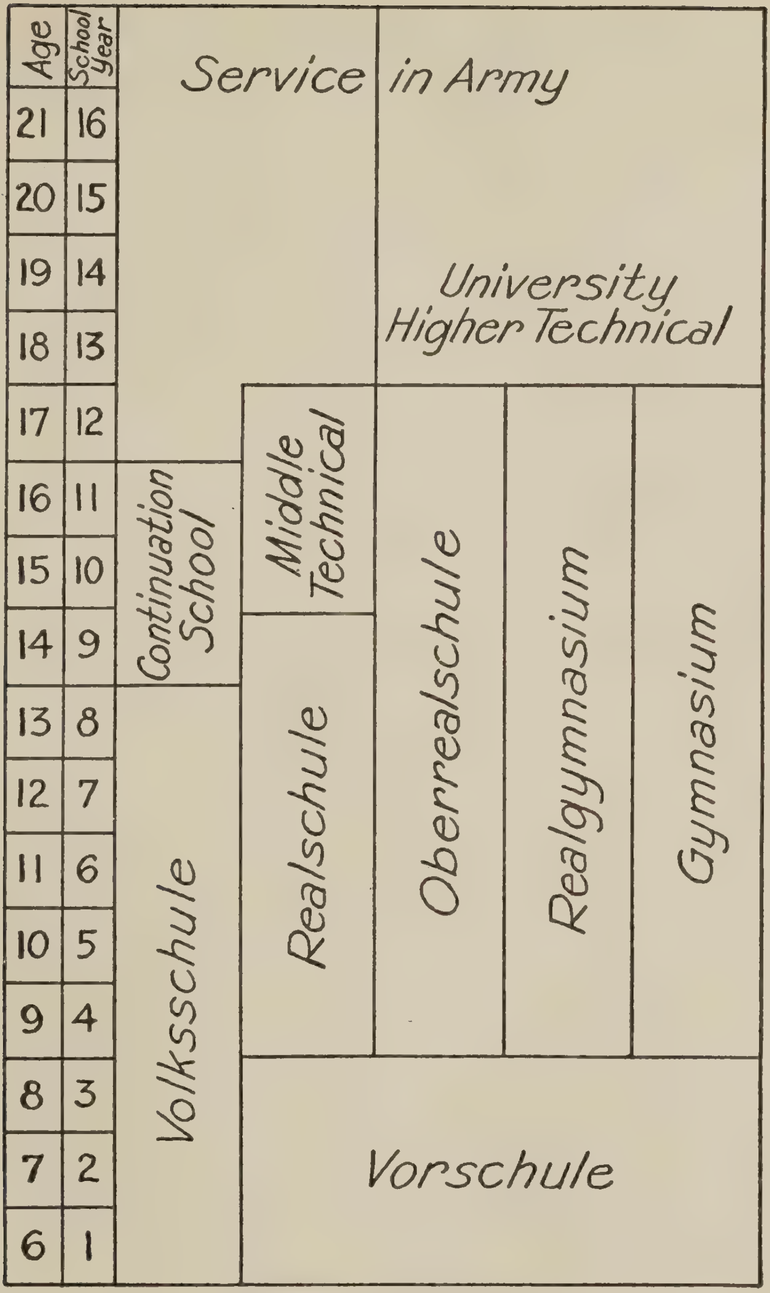
Up to the middle of the century, Germany remained predominantly an agricultural country. But as the Germans are notably prolific, the population became too congested and was obliged to seek an outlet either through emigration or in some different form of society. Large numbers began to leave the fatherland, and the princes sought to accommodate their surplus population by establishing colonies in various portions of the earth. The Industrial Revolution also offered a means of caring for their increasing numbers. The vision of a grand industrial empire reacted directly on the school set-up.

(3) The third great development was a strong awakening of the democratic spirit, which culminated in the revolution of 1848 in Prussia. The revolutionistic movement was crushed, but the absolutism of the monarchy was changed to a constitutional government. Among other objectives, the revolutionists expressed a demand for the reform of the classical gymnasium.

This demand for the reform of secondary instruction increased in volume as Germany became an industrial and exporting nation. A prolonged struggle ensued between those who felt that the perpetuity of German culture and the stability of the institutions depended upon the discipline and ideals realized by the gymnasial course and those who sensed the need of modern culture to meet the problems of the growing empire. Grudgingly the conservative element agreed to the study of some modern foreign language and of some science. But this slight adjustment was far from sufficient.

It was under these conditions that efforts were put forth to reconstruct the old but feeble realistic schools which followed the type founded by Hecker. In 1870, following the establishing of the empire, the *Realgymnasien* were given enlarged privileges in preparing students to enter the universities. Gradually, further recognition was accorded them. But the dominating attitude of the Classicists was not overcome until the celebrated conference on education in 1890.

The stage was set by the reactionary element to restrict again the hard-won privileges of the modernistic group. Then, a new and powerful factor entered. The young emperor, William II, unexpectedly threw the weight of government to the side of the progressives. He appeared in person at the assembly of educators and, on the basis of personal experi-


Age
School Year
21 16
20 15
19 14
18 13
17 12
16 11
15 10
14 9
13 8
12 7
11 6
10 5
9 4
8 3
7 2
6 1
Service in Army
University
Higher Technical
Continuation School
Middle Technical
Volksschule
Realschule
Oberrealschule
Realgymnasium
Gymnasium
Vorschule

Prussian School System.

ences, took the gymnasiums to task in a memorable address. Above all else he stressed the national character of education. Among other points was this decisive statement: [2]

> Whoever has attended the gymnasium and has looked behind the scene, knows wherein it has failed. Above all a national character is lacking. We must make German the foundation; we should bring up young Germans and not young Greeks and Romans. We must get away from the basis that has existed for centuries, the monastic education of the Middle Ages, where Latin and a little Greek formed the standard. The German exercise must be the center around which everything revolves.

After this time the *Realgymnasium* and the *Realschule* enjoyed greater prestige and witnessed more rapid growth.

Secondary school organization. The arrangements for secondary education in Germany have always been elaborate and detailed. First the pupils who were to take up higher studies spent the beginning years, from six to nine years of age, in a special primary school. Then they had the choice of entering one of three different types of school. First, there was the *Gymnasium,* which remained the strictly classical institution, with Latin, Greek, and mathematics as the backbone of the course of study. Students who attended this school would attend the university and prepare themselves for one of the learned professions. The second institution open for their choice was the *Realgymnasium.* This was a compromise institution, with a high-class modern scientific course. The third opportunity was the *Oberrealschule,* which offered a curriculum entirely of modern languages and scientific studies. It was this school which was designed to train for the higher technical and commercial vocations.

Curriculum. The accompanying tables present the full courses of study in these institutions, and the hours per week given to each. Inasmuch as the student practically determined his vocation with his choice of school, there was no election of studies within the particular institution. The fact that these schools have been noted for their thoroughness and for

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[2] Paulsen, F., *Geschichte des gelehrten Unterrichts,* Vol. II, p. 597. Leipzig, Veit and Company, 1896.

GYMNASIUM

	VI[a]	*V*	*IV*	Lower *III*	Upper *III*	Lower *II*	Upper *II*	Lower *I*	Upper *I*	Total
Religion	3	2	2	2	2	2	2	2	2	19
German	4	3	3	2	2	3	3	3	3	26
Latin	8	8	7	7	7	7	6	6	6	62
Greek	—	—	—	6	6	6	6	6	6	36
French	—	—	4	3	3	3	2	2	2	19
History and Geography	2	2	2; 2	2; 1	2; 1	2; 1	3	3	3	26
Arithmetic and Mathematics	4	4	4	3	3	4	4	4	4	34
Description of Nature	2	2	2	—	—	—	—	—	—	8
Physics, Chemistry, and Mineralogy	—	—	—	2	2	2	2	2	2	10
Writing	2	2	—	—	—	—	—	—	—	4
Drawing	—	2	2	2	2	—	—	—	—	8
Total	25	25	28	30	30	30	28	28	28	252

[a] These Roman numerals represent the classes, nine in all. The lowest is the sixth. The three higher classes are divided into lower and upper divisions, with a year's work in each.

REALGYMNASIUM

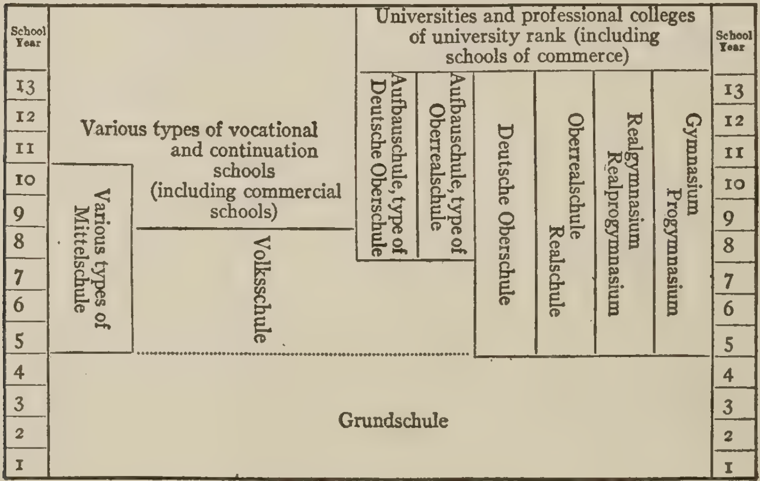
	VI	*V*	*IV*	Lower *III*	Upper *III*	Lower *II*	Upper *II*	Lower *I*	Upper *I*	Total
Religion	3	2	2	2	2	2	2	2	2	19
German	4	3	3	3	3	3	3	3	3	28
Latin	8	8	7	4	4	3	3	3	3	43
French	—	—	5	5	5	4	4	4	4	31
English	—	—	—	3	3	3	3	3	3	18
History and Knowledge of Earth	2	2	2; 2	2; 2	2; 2	2; 1	3	3	3	28
Arithmetic and Mathematics	4	4	4	5	5	5	5	5	5	42
Description of Nature	2	2	2	2	2	2	—	—	—	12
Physics	—	—	—	—	—	3	3	3	3	12
Chemistry and Mineralogy	—	—	—	—	—	—	2	2	2	6
Writing	2	2	—	—	—	—	—	—	—	4
Drawing	—	2	2	2	2	2	2	2	2	16
Total	25	25	29	30	30	30	30	30	30	259

OBERREALSCHULE

				Lower	Upper	Lower	Upper	Lower	Upper	Total
	VI	*V*	*IV*	*III*	*III*	*II*	*II*	*I*	*I*	
Religion	3	2	2	2	2	2	2	2	2	19
German	5	4	4	3	3	3	4	4	4	34
French	6	6	6	6	6	5	4	4	4	47
English	—	—	—	5	4	4	4	4	4	25
History and Knowledge of Earth	2	2	2; 2	2; 2	2; 2	1; 2	3	3	3	28
Arithmetic and Mathematics	5	5	6	6	5	5	5	5	5	47
Description of Nature	2	2	2	2	2	2	—	—	—	12
Physics	—	—	—	—	2	2	3	3	3	13
Chemistry and Mineralogy	—	—	—	—	—	2	3	3	3	11
Writing	2	2	2	—	—	—	—	—	—	6
Freehand Drawing	—	2	2	2	2	2	2	2	2	16
Total	25	25	28	30	30	30	30	30	30	258

the continuity of their studies in the secondary field has added to their importance in the estimate of many American educators.

Educational changes since the World War. A number of changes have taken place since the World War, and a greater


School Year
13
12
11
10
9
8
7
6
5
4
3
2
1
Universities and professional colleges of university rank (including schools of commerce)
Various types of vocational and continuation schools (including commercial schools)
Various types of Mittelschule
Volksschule
Aufbauschule, type of Deutsche Oberschule
Aufbauschule, type of Oberrealschule
Deutsche Oberschule
Oberrealschule
Realschule
Realgymnasium
Realprogymnasium
Gymnasium
Progymnasium
Grundschule
School Year
13
12
11
10
9
8
7
6
5
4
3
2
1

Present German School System.

spirit of democracy is evident in various readjustments. There has also been a reaction against the extreme formalism that had grown up in educational circles. A new spirit of experimentation has been found in some of the independent cities. Now, all children must attend the same *foundation school* (*Grundschule*) for the first four years of their education. Then they must select the higher school they choose to attend, or continue in the *Volksschule*. Formerly the gymnasial courses were begun at nine years of age; now they are commenced at ten. Girls and boys attend separate schools, but the university is now open to women.

2. Progress of Education in England

Progress of England and of the British Empire: 1832–1902. The period from 1832 to 1902, all but six years of which were included in the reign of Queen Victoria, constitutes one of the greatest epochs in English history. The population of England and Wales increased from about 14,000,000, when the period began, to more than 30,000,000, at its close. A vast development of the British colonies, which comprised about one-fourth of the earth's surface, had made the British Empire the largest and most unified in history. The wealth and trade of the British Isles multiplied enormously. On the other hand, crime and pauperism decreased, and living standards of the common people were greatly raised. Under these conditions England became one of the most completely industrialized areas in the world, relying upon other countries for her raw materials and for an outlet for her manufactured goods.

Education in England in 1832. Elementary education was sadly neglected in England during most of the 19th century. The school societies of the Church of England and of the non-conformist churches did some work in this field, and local benevolence and private enterprise added something; but it is estimated that in 1832 only about a quarter of the children received any schooling. Private secondary schools were being organized for the children of the rapidly increasing middle class. Many of these institutions were, unfortunately, of a type not deserving to be called schools. Abuses of ancient school foundations were numerous. Even in the better secondary schools there was a gap between subjects of study and methods of discipline and the life of contemporary England. The country did scarcely any better for the education of her middle class than for that of her poor.

Oxford and Cambridge Universities, though improved by reforms effected about the turn of the century, were meeting the needs of but a small proportion of the English youths who could have profited by contact with higher scholarship. These universities were not making the contributions to the progress of knowledge that the English had a right to expect from seats of learning so rich and ancient. However, one promising achievement in the sphere of higher education marked the year 1828: this was the founding of the non-sectarian University of London. In this new foundation the sciences were from the first adequately provided for.

State and elementary education to 1870. In 1832, the ministry budgeted twenty thousand pounds to be used for building schoolhouses. This fund was used by the National and British School Societies, and an equivalent fund was to be provided from fees, endowments, and voluntary contributions. In 1839, the fund was increased to thirty-nine thousand pounds, and a committee of the Privy Council was established to see to its allocation and use. The committee made the right of inspection a condition of the grants, and appointed inspectors and an assistant secretary. Dr. James Kay—later knighted as Sir James Kay-Shuttleworth—was appointed to the latter office. By the subsequent work for schools, Dr. Kay won the right to be called the "father of English elementary education." Within less than a decade, school inspection was established; various additional school societies were permitted to share in the grants; Dr. Kay had personally organized a training school for elementary teachers at Battersea; in 1846 the government had established a system of teacher training, called the *pupil-teacher system;* and a beginning was made of the certification of teachers. Under the pupil-teacher system, candidates for teaching positions were trained, partly in training schools or colleges, and partly in actual service in elementary schools, as cadet or pupil teachers.

In the meantime the use that was being made of charitable endowments in England was investigated. Such endowments were extremely numerous, and have always been regarded by the English as essentially public in character. It was found that, in addition to various other abuses, many of these foundations were not offering the type of instruction adapted to the constituency for which they had been established. The Grammar Schools Act of 1840 made possible the reorganization of such foundations as elementary schools adapted to the needs of the time.

Parliamentary grants to education steadily increased, but bills for the support of education by local taxes were regularly defeated. In 1853, grants of from three to six shillings for each pupil in regular attendance at rural schools were authorized; and in 1856, the benefits of the *capitation grant,* as it was called, were extended to urban areas. The growth of the grants and the effects of legislation on them may be seen from the accompanying table.[3]

PARLIAMENTARY GRANTS FOR EDUCATION, 1832–1880

Year	*Amount of Grant*
1833	£ 20,000
1839	30,000
1846	100,000
1851	150,000
1855	396,000
1858	663,400
1861	813,400
1865	636,800
1870	894,000
1876	1,600,000
1881	2,200,000

Department of Science and Art; Education Department. In 1836, with a view to the improvement of arts and manufactures, Parliament instituted at London, under the Board of Trade, a School of Design. In 1853, as an outcome of the Great Exhibition of 1851, the Department of Science and Art was created. Three years later the Education Department, which took over the work of the Privy Council Office concerned with education, was established. The lord president of the Privy Council was chairman of the department; and a new office, that of vice-president of the Council—to be filled by a member of the House of Commons who was of the party in power—was created. This officer was to have especial responsibility for education. Until the creation, in 1899, of the Board of Education, the Education Department controlled public elementary schools in England.

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[3] Compiled from *Encyclopaedia Britannica,* 14th Edition, Vol. 7, pp. 980–982.

Newcastle Commission. The enormous cost of government after the Crimean War led to a clamor for curtailment of expenditures. At the same time there was a demand for a general and adequate system of elementary schools. In 1858, a commission known, because it was headed by the Duke of Newcastle, as the *Newcastle Commission,* was appointed to study the state of elementary education in England, and to recommend a plan by which "sound and cheap" elementary instruction could be made available for all classes. The commission reported in 1861. It rejected compulsory school attendance and free education, on the ground of religious difficulties and because it was thought that these practices constituted an invasion of the rights and liberties of parents. It found elementary schools, especially private elementary schools, in a deplorable state; there were actually private teachers who were unable to read and write. The pupil-teachers were already proving their worth. It was recommended that grants should be based in part upon the success of schools in teaching certain fundamental subjects—principally reading, writing, spelling, and arithmetic—as measured by the standing of the pupils in examinations on these subjects. This recommendation was adopted; and a system of "payment by results," which constituted the principal achievement of the Newcastle Commission, was set up.

Some effects of basing the grants on the standing of pupils in examination were: reductions in grants; emphasis on studies for which grants were made, to the neglect of other subjects; emphasis in elementary schools upon cramming the memory with facts, rather than upon the development of pupils' bodies and minds; and, in some cases, deliberate retardation of pupils, so that they might stand well in examinations. To meet various objections, the system was modified from time to time, but was not fully abolished until 1904.

Elementary Education Act of 1870. Throughout most of the century the English people showed themselves greatly attached to the voluntary school system. Strong as was this attachment, a large group of reformers opposed it. At length, in 1869, the *National Education League* was formed to press for the establishment of a system of universal, free, compulsory, non-sectarian elementary education. Investigations reported in the House of Commons made clear that the voluntary system was not adequate to the needs of the nation. In 1870, W. E. Forster presented in the House of Commons a bill drawn with the express intent of enabling the country to "complete the present voluntary system, to fill up the gaps." This bill became the basis of the Elementary Education Act of 1870.

The bill provided that the country should be divided into districts, and the educational needs of each ascertained. In districts where adequate elementary schools were lacking, voluntary societies were to be allowed a year in which to supply the deficiency; in cases where voluntary societies failed to establish adequate elementary schools, school boards were to be set up and these were to establish public elementary schools. School boards were empowered to regulate religious instruction in the new schools and to pass by-laws requiring school attendance for children between the ages of five and twelve. The bill was altered by the exclusion, under the famous Cowper-Temple clause,[4] of all denominational teaching from *board schools,* as these schools were called; and by the provision that religious instruction in all state-assisted schools should be given at the beginning or close of the school day, and that children might be absent from school while this instruction was being given. The time of grace allowed societies in which to supply deficiencies was reduced to six months. Provision was made for a small local tax rate for schools. A small tuition fee was regularly charged to pupils; but school boards were authorized to pay out of the rates the fees of necessitous children.

Progress of elementary education to 1902. Following the passage of the Elementary Education Act, opportunities for elementary education in England were steadily extended, standards of work and of equipment were raised, and the burden of elementary instruction passed slowly to the board schools. In 1870 there were about 1,200,000 pupils in daily attendance at inspected schools; in 1900 there were about 6,000,000. Grants increased to four million pounds in 1891 and to almost nine million in 1900. Many urban school boards passed compulsory attendance laws, and in 1876, Lord Sandon's act provided for school attendance committees where there were no school boards, and imposed fines upon parents and masters who failed to send their children to school. In 1880, Mundella's act required the attendance of children between the ages of five and ten, and provided further that children leaving school before thirteen years of age should demonstrate by examination their proficiency in subjects prescribed by the local board of their school district.

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[4] This clause declares that "no religious catechism or religious formulary, which is distinctive of any particular denomination, shall be taught in the school." The reference is to the new board schools.

The status of elementary education and of educational opinion in England is very well reflected by the report of the Cross Commission, presented in 1888. A majority of the commission favored voluntary schools, but a minority wished to have a board school established within reach of every child in England. The minority held liberal views respecting methods of teaching and courses of study. The commission was agreed in favoring the inclusion of drawing, manual and technical instruction, and domestic arts in the course of study; in condemning payment by results; and in recommending higher salaries for teachers and the establishment of day colleges for training teachers. It is of interest that day-university colleges were established in 1890, and that in 1900 there were sixteen of them.

An act of 1891 provided that special grants should be made to schools that did not charge tuition fees. This measure had the effect of making elementary education virtually free throughout England. The age at which children might leave school, after passing examinations demonstrating proficiency in school subjects, was set at 11 in 1893, and at 13 in 1896.

The Local Governments Act, passed in 1888, was the basis of a complete reorganization of English county and municipal government. Under the Technical Instruction Act, the local councils were empowered to levy taxes to provide manual and technical instruction. In 1890 the councils were given further taxing powers. The report of the Bryce Commission in 1894 pointed out the confusion arising from the multiplicity of authorities dealing with education and the need of a central authority for all England. In 1899 this central authority was set up by the creation of the Board of Education. The functions of the Education Department and the Department of Science and Art, together with the educational functions of the Charity Commission, were assigned to the new board.

Education Act of 1902. By an act of 1902 the powers which had long been exercised by school boards, school attendance committees, and various other committees were placed in the hands of local education authorities. Every council of a county or county borough was made the local school authority for its respective area; councils of non-county boroughs or of boroughs of more than 10,000 population and of urban districts of more than 20,000 population were given charge of the elementary schools of their districts. The councils were not permitted to delegate power, to negotiate loans, or to levy rates; but other powers were to be exercised through education committees, the personnel of which was to be approved by the Board of Education. A majority of members of school committees were also members of the council, and it was required that the membership of each committee should include women and persons experienced in education. Under the Education Act of 1902, England has developed, during the present century, a national system of public schools.

Secondary education. In the course of the 19th century, secondary education in England was revolutionized. Life in the great public schools was transformed; the standard of work of less prominent endowed schools and of proprietory schools was raised and made uniform; mathematics, sciences, modern languages, and history were given full standing in the course of study; and a system of popular higher schools under the school boards was begun—a system which has covered England with secondary schools under local education authorities.

The name of Thomas Arnold, of Rugby, is inseparably associated with the reform of the nine great public schools.[5] Arnold regarded the formation of moral and religious character as the supreme purpose of education; and he so reformed the life at Rugby and the teaching of the classics there as to make them more effective agencies for the building of character. His influence was felt in all of the great public schools, and spread to the other boarding schools of England.

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[5] As indicated in an earlier chapter, these public schools are Eton, Winchester, Westminster, Charterhouse, St. Paul's, Merchant Taylors', Harrow, Rugby, and Shrewsbury.

In response to general dissatisfaction with secondary education about the middle of the century, two commissions were appointed to study its status. The first, the Clarendon Commission, from 1861 to 1864 studied the nine public schools. As a result of this inquiry the Public Schools Act of 1864 was passed, under which certain details of the administration of the great boarding schools were reformed. From 1864 to 1867 the schools inquiry commission—called, from its chairman, the Taunton Commission—investigated all schools below the level of the universities which had not been included in the studies made by the Newcastle and Clarendon Commissions. The Taunton Commission uncovered the abuses to which many educational endowments were subject. It pointed out the inadequacy of the classical curriculum to meet the needs of some groups of secondary school pupils; and it recommended local and central administrative officials charged with the supervision of secondary education.

England was not yet ready to set up the machinery of school administration that the report recommended; but certain abuses were corrected, and impetus was given to the inclusion of new subjects in the course of study and to administrative reforms. The report of the Bryce Commission (1894) recommended the establishment of central and local educational authorities; these recommendations were, as already indicated, put into effect in 1899 and in 1902.

A beginning of state-supported secondary education was made with the establishment of the Department of Science and Art in 1853. The Technical Instruction Act of 1889 and the Local Taxation (Customs and Excise) Act of 1890 gave to the newly established county councils the authority to assess taxes for the support of manual and technical instruction. These acts were liberally interpreted, and, as a result, scientific, mathematical, and other liberal studies were encouraged. Furthermore, elementary schools were permitted to extend their courses of study. In 1901, in the test case of Rex versus Cockerton, this allowance of grants for secondary education was declared illegal. This decision at once brought matters to a head. An act of 1902 made every county council the local education authority for higher as well as for elementary education.

Universities. The 19th century witnessed the development in England of a strong system of provincial universities. Developing, as they did, out of interest in science, on the one hand, and a demand for the wide diffusion of liberal learning, on the other, they have proved progressive both respecting their contributions to science and in their social attitude. Oxford and Cambridge Universities have been transformed. In the early 19th century they were dominated by clerical oligarchies. They were, moreover, out of touch with modern scholarship, inaccessible to a majority of youths who might have profited by higher training, and opposed to any effort to break their monopoly of higher education. As the result of an inquiry conducted in the fifties by royal commissions, religious requirements that excluded dissenters from the privileges of degrees and teaching positions in these universities were abolished. Gradually their administration, methods of instruction, and curricula were reformed. In the last half-century the work in all departments has been greatly strengthened, and the contributions of Oxford and Cambridge to the progress of science have worthily carried forward the great scholarly tradition established by Newton.

3. French Education in the Nineteenth Century

Political background of French education. While French education in the 19th century was affected by the general progress due to democracy, science, humanitarianism, and the Industrial Revolution, it reflected especially the distinctive intellectual culture of France, and the events of recent French history. Consequently, French education is peculiarly national in character. This nationalism shows itself especially in the high degree of centralization of the educational machinery, in the excellence of the teaching of the French language in the schools, in the depth and strength of French Humanism, and in the care taken to train pupils so that they might become patriotic citizens.

The enthusiasm of the French Revolution had spent itself when, in 1799, Napoleon became First Consul. Napoleon ruled until 1815. While he left the nation exhausted by war, he left to it an administrative system and a code of laws that made possible a rather efficient government. France retained from the First Empire a tradition of military success that was to affect her later history.

After the fall of Napoleon, a constitutional monarchy was established, and the Bourbons were restored to the throne. The Roman Catholic Church was reëstablished with many of its ancient privileges. In 1830, however, when Charles X attempted to reign despotically, he was deposed and Louis Philippe was made king. The July Monarchy, as the government of Louis Philippe was called, was, in 1848, overthrown by a union of liberal monarchists, republicans, and socialists. A republic was established, and Louis Napoleon, a nephew of Napoleon I, was elected president. Napoleon succeeded in 1852 in having himself made emperor. Under his reign France was prosperous: industrial and commercial progress advanced rapidly, and the administrative machinery of the country was perfected. The government was, however, reactionary. In 1870, the French were defeated by Prussia, the Second Empire fell, and the Third French Republic was established. In 1879, the republicans gained complete control of the government, and since that time the country has remained republican.

Effects of the French Revolution upon education. The immediate educational results of the French Revolution were principally negative. The old regime with its system of church schools was swept away, and the foundations of the ancient universities were seized by the nation. There were, as already indicated, many plans of education proposed, but none of them were put into effect. The law of 1795 did indeed found secondary schools, but these were defective in internal organization. More significant was the impetus that the Revolution gave to the teaching of science. Although many of the fine schemes came to nothing, the Revolution largely determined the course since taken by the administrative organization of French education.

Napoleon and education. Napoleon undertook to create a system of education by which the people would be trained to be loyal and obedient to the government which he imposed upon them, and through which scientific and military leaders could be developed for his empire. In a law passed in 1802, the responsibility of maintaining primary schools was left to the communes, while departmental officials were to supervise them. Pupils were required to pay tuition fees, though poor children might be admitted free. Primary education was virtually in the hands of the church. The state neither required communes to maintain primary schools nor encouraged them with subsidies. France cannot be said to have had a system of primary schools until after 1830. The law of 1802, however, laid the foundation of the French system; it made provision for the establishment of state secondary schools known as *lycées,* and for municipal and private secondary schools which came to be called colleges.

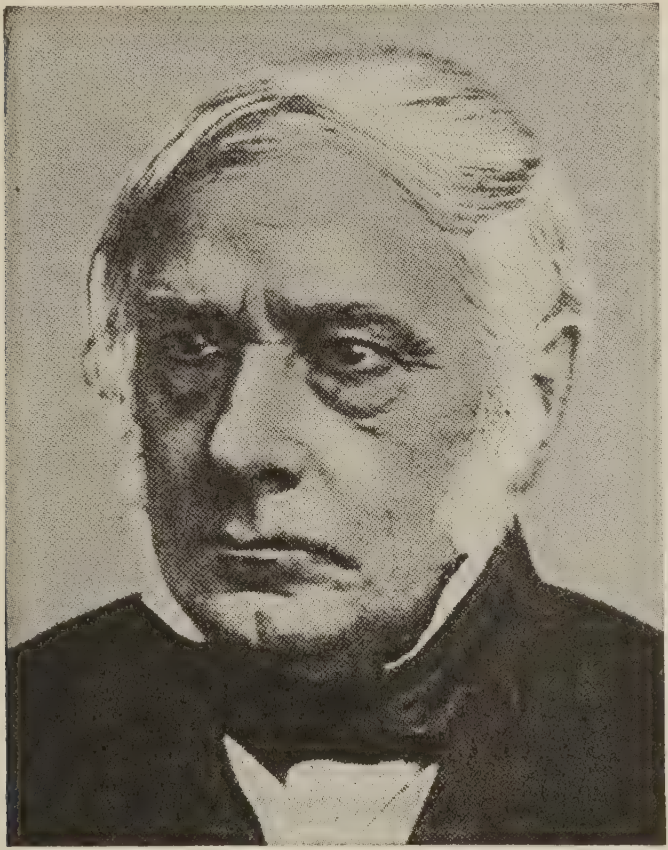
By the laws of 1806 and 1808, Napoleon formed a complete system of machinery for the control of education and for disbursing funds for schools. This agency, known as the Imperial University, was given a monopoly of education; and no other schools were to be established. Its teaching agencies were *lycées,* colleges, and faculties of professional and higher studies. At its head was a *grand master,* who was directly responsible to the emperor. He was assisted by a council, and with it exercised complete supervision over education. A staff of inspectors kept the grand master and council informed of conditions in the schools.

For purposes of administration France was divided into units known as *académies;* the head of each of these was an official known as the *rector.* He, too, was assisted by a council and inspectors. The organization effected by Napoleon is of interest because, although changed in details and transformed completely in spirit, it survives to the present day in the organization of French educational machinery.

Napoleon founded a higher normal school which was to train teachers for secondary schools. This institution was opened in 1810. Various other higher institutions were established. But Napoleon's most important achievements in the organization and development of French education were the founding of technical schools and the Superior Normal School, the establishment of a permanent system of secondary schools, and the projection of an administrative organization which outlined the form that subsequent developments followed.

Education under the Restoration Monarchy. Conservative, closely aligned with the church, and engaged in governing a country exhausted by a quarter of a century of war, the Restoration Monarchy did little either to promote or to retard the development of education. The administrative machinery and institutions of Napoleon were retained, though in 1824 the title of the grand master was changed to that of *minister of education,* and the Superior Normal School was suspended from 1824 until 1829, while twelve additional normals for training elementary teachers were established. The government left primary education to the church, and exercised little supervision over the instruction offered. It granted annually fifty thousand francs for primary education, a sum which allowed only about thirty cents to each of the 37,000 communes.

Education under the July Monarchy. Upon assuming the government of France, the July Monarchy at once set itself to reform the French system of education. François Pierre Guillaume Guizot (1787–1874) was made minister of education; and Victor Cousin (1792–1867), a distinguished professor who taught at the Sorbonne, was made a member of the Council of Public Instruction. In 1830, Cousin was sent to Prussia to study public education there. His findings and conclusions were published under the title *Report on the State of Public Education in Prussia (Rapport sur l'Etat de l'Instruction Publique en Prusse).* He found much in the Prussian system to praise. Guizot, meanwhile, conducted a survey of French elementary schools, which revealed clearly that France had no system of public elementary schools worthy of that name. By a law of 1833, provision was made for a system of publicly controlled primary schools, lower as well as higher, in which all the children of France not provided for in the higher system of schools were to be educated. The law required every commune to have a lower primary school, though communes might combine to support their schools; and every department to have a normal school for the training of elementary teachers, though departments, too, might combine for the support of their normal schools. Higher normal schools, offering mathematics and its applications, modern foreign languages, the elements of the various sciences, and other subjects of the same level, were to be maintained by the chief towns of every department, and by all cities of over six thousand inhabitants. Unfortunately the schools were not entirely free; a tuition fee was paid by all pupils except poor children who might be admitted, by the local authorities, without charge. These might also, through merit, win scholarships in the higher primary schools.



Victor Cousin.

The July Monarchy soon covered France with a system of public elementary schools, and manned its schools with teachers trained in state normals. The expense of the system was met by tuition fees and by local, departmental, and national taxation. National grants to education were substantially increased.

The Second Republic and the Second Empire. The Second Republic began by being quite liberal, but quickly became exceedingly reactionary. After the reaction the course of studies of the normal schools was reorganized and very much limited. An education law passed in 1850 improved the position of the Catholic Church in relation to education; it abolished the state monopoly of secondary and higher education, and abolished higher primary schools, though subjects of the grade of the higher primary schools might be offered in primary schools as options. In 1852, Napoleon III assumed autocratic control of education, and the state exercised close supervision over the speech and actions of teachers. In 1854 the administrative machinery that still survives was set up. As it must be described under the following section devoted to the discussion of the Third Republic, nothing further will be said of it here. Between 1865 and 1869, primary schools for girls were made obligatory in communes having more than five hundred inhabitants, and communes which desired to do so were permitted to provide free elementary instruction.

Education under the Third Republic. Republicans came into complete control of the French Government in 1879. Within less than a decade, under the leadership of Jules Ferry, minister of education, a series of laws providing for the reorganization of the national educational system was passed. The first of these laws abolished fees in the public lower primary schools, and provided that the state should assume boarding expenses of pupils in the state normal schools. In 1882, laws were passed requiring school attendance of all children between the ages of six and thirteen, save that children, of eleven years of age and over, who had passed a state examination in the elementary subjects, might be excused from attending school. The elementary curriculum was greatly enriched, and the superior primary school was once more made a part of the system.

The Third French Republic preserved the machinery of educational administration developed by the Second Empire. It includes four important units of school administration: the nation; the academy, of which there are seventeen; the department; and the commune. At the head of the entire system is the minister of education, who is an executive officer responsible to the Chamber of Deputies. He is advised by a superior council, which is broadly representative of every part of French education. Inspectors assist the minister and council in keeping in touch with educational affairs in all parts of France. A body of civil servants, divided into groups under departmental chiefs, carry on the routine work of national administration. Except for Chambéry, each of the seventeen academies has now a teaching university. Under a law of 1885, faculties of the higher and professional subjects were organized in the academies; a law of 1896 provided for their organization as universities. At the head of each university and of the educational work of each academy, is a rector, who is advised by a council, quite similar to the council which advises the minister of education. The rector and council are concerned especially with higher and secondary education and with the training of teachers. Each academy has its staff of inspectors. The next unit of administration is the department. At the head of the department is its prefect. The prefect is advised in educational matters by a departmental council, which is representative of the general administration of the department and of the various groups engaged in educational work in the department.

4. Spread of Education

Europe and South America. The spread of modern educational activities and organizations during the 19th century is one of the outstanding phenomena of history. All civilized lands have found it necessary to revise their educational programs. In addition to the countries already mentioned, other countries in northwestern Europe early established state systems. In Holland, Norway, Sweden, and Finland, illiteracy has long been a thing of the past. Southern Europe has also undergone a great revival, as have likewise eastern European countries. Similarly, in South America, all the republics have established state schools. During the past few years Mexico has worked out a most successful system.

British dominions. Throughout the British Empire, modern education has been everywhere established. The large immigration from Scotland and Ireland, as well as from England, has resulted in educational activity of a high order. The various dominions have not been hampered by the encrusted traditions of centuries as in old England, and their systems consequently are more progressive.

The Dominion of Canada offers one of the finest examples of educational progressiveness. The national constitution provides that education shall be the concern primarily of each province; while the various school systems are not all on the same level of efficiency, they are all highly developed. In general they have succeeded in combining much of the best of the philosophy of education of Scotland, England, and the United States.

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CHAPTER XIX

THE BUILDING OF THE AMERICAN SCHOOL SYSTEM

1. Development of the Free School System in the United States

Distinctive character of American public schools. The 19th century witnessed the establishment in western Europe and America of free, publicly supported schools, operated for the benefit of all the people. This development was something new in the history of civilization. It is true that there had been, even in ancient times, free public schools for the upper classes; that Protestant leaders of the 16th century wished all children to be taught to read the Bible and instructed in the church catechism; and that Comenius and a few other far-seeing reformers had advocated education for every child. But most educational theorists before the middle of the 18th century held that education as enlightenment should be the privilege of the well-to-do.

The free school system as it developed in the United States differs in several essential respects from the state systems which arose in Germany, France, and Great Britain:

(1) American schools were made subject to popular control to a much greater extent than were the schools of Europe.

(2) Germany, France, and England have, for the most part, educated the socially and intellectually elite in one system of schools and the masses of the people in another. America developed its common school system in an attempt to abolish all distinctions among social classes. In each state there is a single system of schools for all, save that in some states, principally in the South, there are separate schools for whites and for negroes.

(3) The teaching of religion has been excluded from the American public schools.

(4) The higher levels of education are much more generally accessible in this country than in Europe. Free tuition in

secondary schools and very low tuition charges in state colleges and universities have been the rule in the United States, in order that the cost of education on these levels might not be a bar to the poor.

(5) America has developed a distinctive machinery for the control of schools. American schools are governed by nonprofessional boards, the policies of which are carried out by administrative officers elected either by the board or by popular ballot. The school inspector is by no means so important an official in America as in France or England. On the other hand, these countries have no official who exercises the powers of an American superintendent of city schools.

(6) There is no national system of schools in the United States. Each state has been free to develop its own system. Educational developments have, however, followed so much the same lines in the different states that there is justification for speaking of the *American educational system.*

Factors affecting development in the nineteenth century. Educational developments in Europe and America were affected in the 19th century by many factors, such as the Industrial Revolution and the consequent growth of cities, the development of democratic political institutions, evangelicalism in the Protestant churches, revolutionary sentiment at the middle of the century, humanitarianism, and the progress of science. The growth of the American school system, however, has been influenced by several conditions peculiar to this country. Some of the more important of these will be mentioned:

(1) Some sections of the United States were settled much earlier than others. This circumstance has resulted in giving to these sections leadership in the development of educational institutions.

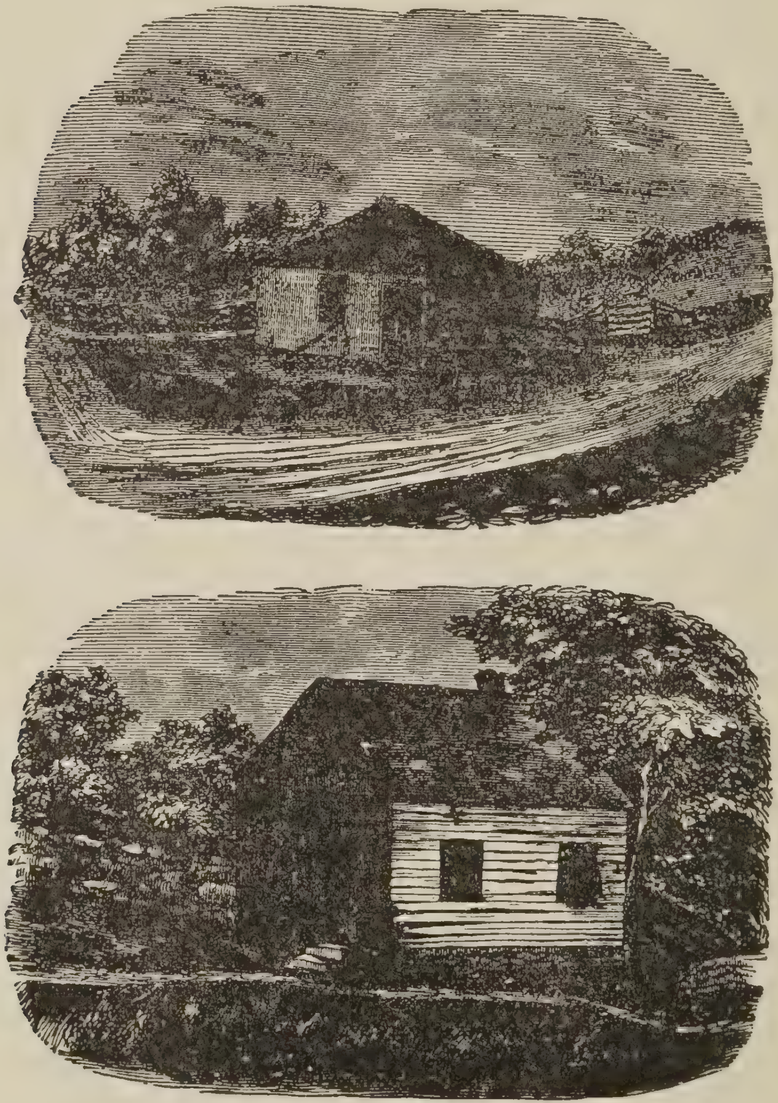
(2) The population of the country is exceptionally heterogeneous, being drawn from various countries of Europe and from Asia and Africa.

(3) The type of leadership which emerged in the common school movement has contributed to shape the American school system. The ideas of Horace Mann and Henry Barnard, in particular, have entered into the system and have given direction to educational enterprises.

(4) The wealth of America and the rapidity with which the

natural resources of this country have been exploited have affected the public schools.

(5) The great size of the United States, in addition to the varied conditions under which inhabitants of the different



District Schoolhouses, About 1850.

sections live, has modified in certain ways the character of our educational institutions.

American schools in the early nineteenth century. At the beginning of the 19th century, public schools were at a low ebb of efficiency and were held in low esteem. It had not been possible to realize the plans for education which had been so plentifully proposed during the first decades of our national history. There were, at the beginning of the century, less than thirty colleges, all of them with very low standards; but many private academies were in operation; and every community, save the poorest or most sparsely settled, supported, from time to time, at least an elementary school. New England had developed the district school, which was destined to spread to all sections of the country, but at the beginning of the century it was still wholly confined to the several New England states. In the South and the West, private elementary schools and community subscription schools were maintained. Everywhere the well-to-do employed private schoolmasters or governesses for their children.

Schools of all grades were principally supported by tuition fees. There were in most parts of the country local school societies, the members of which made annual contributions to the support of schools. Subscriptions for schools were taken in churches. A few colleges and academies, principally in New England, had endowments. Some institutions profited from funds raised by lotteries, which were recognized as a profitable and legitimate source of revenue. In various sections, schools were aided by public appropriations. About the beginning of the century, Virginia, Connecticut, New York, and several other states set apart permanent school funds, which were later greatly increased.

School plants and equipment were poor and meager. The typical district school was housed in a log or frame hut of only one story, without hall or cloak room. It was heated, from a huge open fireplace, by a wood fire; and equipped with a few rough benches, a shelf which served as a writing desk, and a crude table and chair for the teacher. Academies and colleges were better housed and equipped; libraries were small or lacking, and laboratories were unknown.

Well into the new century, American schools continued to use the texts of Webster, Morse, Murray, Caleb Bingham, and Pike.

Teachers of the period were, for the most part, men, though many schools for very small children and also summer schools were taught by women. Teachers were not trained for the work of instruction; many of them were clergymen, physicians, or lawyers who found teaching more congenial than the professions for which they were trained or turned to it in order to increase their income. So little did the trustees of the University of Virginia esteem the scholarship of American college teachers in 1819 that they brought professors from Europe to give standing to their institution. Few masters and mistresses of district schools had received any education beyond that given in the district school and in some village or rural academy. Miserably equipped and paid, they were able to transmit to their pupils little more than the barest elements of reading, writing, and arithmetic. Their crudity and ineptitude became the butt of innumerable jests in American literature.

Economic, social, and political movements. The most noticeable features of American domestic affairs from 1800 to 1860 were the extension of the territorial limits of the United States and the rapid growth of population. In this period the Northwest Territory, the Louisiana Territory, Florida, Texas, California, New Mexico, and Arizona were added. The population of the country, which was reported by the census of 1793 as 3,819,846, had increased in 1815 to about 6,800,000; and in 1860, to 31,443,321. Immigration within the period was enormous, being drawn principally from England, Ireland, Scotland, Scandinavia, and Germany. The tide of immigration from southern and central Europe did not set in until the last quarter of the century.

The first sixty years of the 19th century witnessed a profound transformation in the economic life of the United States. At the beginning of this period the country was agricultural, but in 1793 two momentous events had taken place. Eli Whitney announced his invention of the cotton gin, and the first successful cotton factory in this country was set up at Pawtucket, Rhode Island. The march of the century witnessed a series of inventions and revolutionary developments in industrial and business organization and methods. Fulton's steamer, the *Clermont,* made its historic voyage up the Hudson in 1807; within four years there were steamers plying the Mississippi and Ohio Rivers. The Erie Canal was opened in 1825, and three years later, ground was broken for the Baltimore & Ohio Railroad. The inventions of the reaper, the sewing machine, and the electric telegraph; improvements in processes of producing iron and steel; and the building of great railroad and steamship lines were prominent among a great number of industrial and commercial achievements that transformed the life of this country. As late as 1853, southern planters were still able to convince themselves that the plantation system could maintain its ascendancy; but statistical figures of 1859, which showed that the manufactured goods of that year were more than nine times as valuable as all the cotton, naval stores, sugar, and tobacco produced by the South, revealed that King Cotton had been pushed from the throne by the factory and the mine.

After 1820 there was a great popular movement in the United States in the direction of political democracy. At the conclusion of the War for Independence, all of the states restricted suffrage, and all save four prescribed property qualifications for its exercise. There was, however, strong sentiment for full manhood suffrage. Vermont was a pioneer of the movement, adopting full manhood suffrage in her first constitution; and every state admitted after Ohio followed the lead of Vermont. New York and Virginia may be taken as representative of the more conservative states. Popular pressure led to the calling of constitutional conventions in New York in 1821 and in Virginia in 1829, both of which extended suffrage. The victory of Andrew Jackson in the Presidential campaign of 1828 marked the ascendancy of democratic principles. Jackson was the exponent not only of political democracy but of faith in a strong Union. National sentiment steadily increased in this country, reaching full development in the feeling aroused in the North by the Civil War.

Leading social movements of the time can be no more than mentioned. The period witnessed the beginnings of the movements for temperance and women's rights, and the development of the abolition movement. In the field of religion the acrimonious theological disputes of the 18th century were continued. Old sects were further divided, and the immigration from Europe of great numbers of Catholics affected the religious problem faced by the schools.

Revolution in American education. These developments of American social, political, and economic life were reflected in American schools. Between 1825 and 1850, American colleges began to be transformed; the American educational ideal was reformulated in harmony with democratic principles, and the lines were laid down along which the American school system has since developed. Prominent among these developments was the movement for the establishment of a single system of free schools, accessible to all the people; this movement has been called the "common school revival." It was, however, less a revival than a new revolution in American education.

Building the Common School System

New York makes a beginning. The failure of the legislature to reënact the common school law of 1795 left New York, upon the expiration of the law in 1800, for a time without public schools. This situation aroused the friends of education, who for the next decade maintained steady pressure upon public opinion in an effort to secure the establishment of a general system of state-aided schools. Meanwhile private and semi-public agencies were active, and by 1805 twenty-one academies had been incorporated under the Regents. The number of academies steadily increased; forty-four reported to the Regents in 1828, and one hundred and six in 1839. In 1805, the Legislature of New York established the common school fund of the state—a fund built up in subsequent years out of the proceeds from the sale of school lands, from lotteries, from the income from bank stock and miscellaneous sources, and, in 1837, by the addition of more than four million dollars, as New York's share of the surplus revenue of the United States Treasury which was deposited with the states. In 1813, the Literature Fund, the income from which was used for academies and seminaries, was established. In 1805, moreover, the New York Free School Society was organized; the purpose of this society was to provide free schooling in the city of New York for poor children who were not cared for in the schools of the various churches. The society was under

Protestant auspices, and was interdenominational in character rather than non-sectarian.

The guiding spirit of the common school movement in New York was a successful lawyer and public official, DeWitt Clinton (1769–1828). In 1805, while mayor of New York, he led in the organization of the Free School Society of New York City, and was for twenty-one years its president. He was twice governor of New York: during the years 1817–1822, and again in 1824–1828. During Clinton's administrations as governor, state appropriations for education were substantially increased. He advocated a state program of teacher training, and the extension and improvement of public school facilities. His greatest service to education lay, however, in the sane leadership which he provided his state, and the widespread popular interest in education which his public utterances aroused.

In 1811, the governor of New York appointed a commission to study the educational situation in the state, and to recommend a plan for public schools. This commission reported the following year, and its recommendations were made the basis of the school law of 1812 which was for twenty-four years the basis of the New York school system. It provided for a system of common schools under the direction of a state superintendent of common schools. Since academies and colleges had earlier been placed under the control of the Regents of the University of the State of New York, there was in New York a dual system of school control, until the system was fundamentally changed in 1904. The law of 1812 further provided that each "town" in the state was to elect school commissioners, who were to divide their town into districts. In each district school, trustees were to be elected, and these were charged with the care and oversight of the schools.

The income from the common school fund was to be apportioned to the various towns on the basis of the population given by the preceding United States census. Each town was to raise by local taxation an amount not less than that received from the state and not more than twice as great. State and town funds were divided among the districts according to the number of children between the ages of five and fifteen. All state and town funds were to be used exclusively for the payment of teachers. Each district was required to levy a tax for the building and maintenance of a schoolhouse, and each decided for itself the question of the type and location of the building. Tuition fees were not mentioned, but subsequent legislation reveals that the charging of fees was taken as a matter of course.

Teachers were examined and licensed after 1814 by town officials, called *school inspectors,* but they were elected by the trustees of each district. The district trustees and inspectors were required to inspect schools periodically. The district trustees reported on their use of funds to the town school commissioners, who summarized these reports and sent them to the clerk of the respective counties to be transmitted to the state superintendent. Gideon Hawley was chosen state superintendent and held the office until 1820, when he resigned. The legislature the next year abolished the superintendency as a separate office; from 1821 until 1854, the duties of the office were assigned to the secretary of state. In the years following 1814, successive reports of the superintendents grew steadily more encouraging.

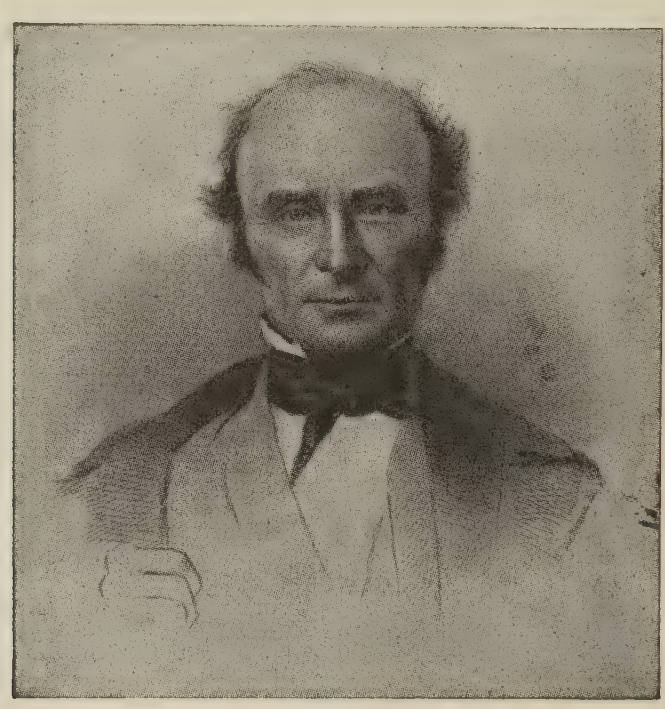
Common school movement to 1830, in various states. While educational developments in New York may be taken as representative of the progress made in the building of the public school system during the first part of the 19th century, events in other states are also of interest. Massachusetts continued under the school law of 1789. Under this law, towns were permitted to set up school committees to supervise the schools—a permission of which many towns availed themselves. In 1826, a new law was passed under which each town was required to appoint a school committee that was to have charge of the schools throughout the town. The districts resisted the loss of local independence which this measure involved, and the next year the law was so modified as to leave the district system virtually unhampered. In 1827, a law was passed which, for the first time in the history of the state, made the support of schools by taxation compulsory.

Down to 1830, Pennsylvania had passed one hundred and thirty-three special acts granting aid to colleges and academies, but the state had no common school system until after that time. However, as early as 1802, an act had been passed which gave power to the overseers and guardians of the poor to levy and collect local taxes for the education of indigent children, and to select the children who should be educated at public expense. With some modifications, this "pauper school" legislation was the only public provision for education made by the state for over thirty years. Its abolition in favor of a more democratic system was the object of persistent agitation from the time the law was passed until it was supplanted by the law of 1834, which established a free school system.

Ohio was the first state admitted to the Union from the old Northwest Territory, for which the ordinances of 1785 and 1787 were drawn. When, in 1802, Ohio adopted its constitution, Congress gave to the inhabitants of each township, for the support of schools, one square mile of land out of the thirty-six square miles in the township. Special acts were passed creating the University of Ohio, at Athens, in 1803; Miami University, in 1809; and various school societies. In 1806 and 1810, laws permitting townships to organize for school purposes were enacted; rentals from school lands were to be devoted to the support of education. The legislation of 1821 permitted the organization of school districts, the levying of school taxes on district residents, and the appointment of school committees. Since this law was permissive merely, it was ineffective. In 1825, the foundation of the Ohio school system was definitely laid in a law which required the formation of school districts, provided a county tax, and required that teachers be certificated for each county by county examiners. In 1827, Congress passed a law which provided for the sale of Ohio school lands, the proceeds from which were to be placed in the state treasury to the account of the respective townships; the state was to pay interest to each township on the sum deposited to its credit.

The development of common schools in the South was retarded by social and economic conditions connected with slavery. North Carolina, the legislation of which may be taken as an example of southern practices generally, established its permanent school fund in 1825, and its system of elementary schools in 1839.

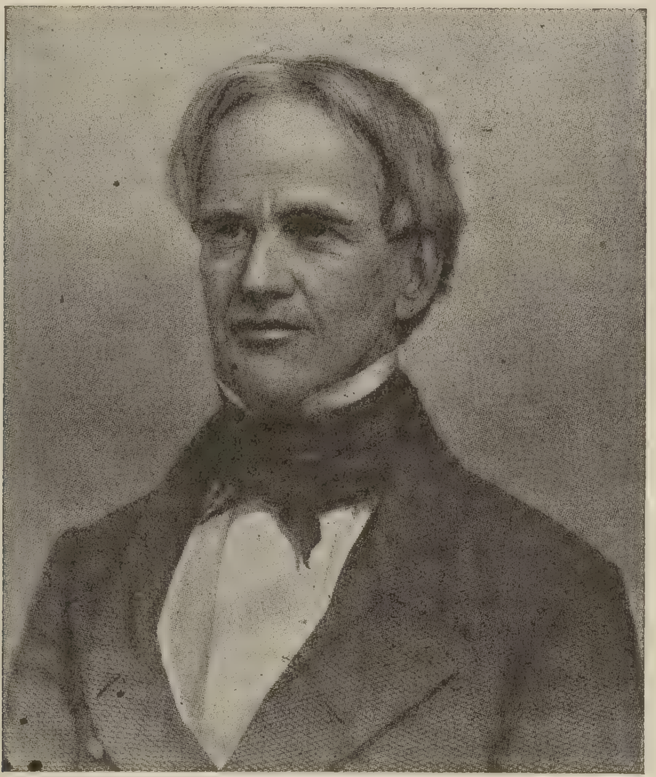
Publications on education. A prominent feature of the common school movement was the large volume of materials published in support of it between 1815 and 1860. Addresses of public men; pamphlets; letters, articles and reviews in newspapers; and, finally, journals, books, reports, and other materials devoted to education kept all aspects of the movement before the public mind. The organization, methods, and operation of European schools were described by John Griscom, in his *Year in Europe* (1819); by Victor Cousin's *Report on the State of Public Education in Prussia,* published for the French Government in 1831 and soon thereafter translated into English; and by reports and articles from the pens of William C. Woodbridge, Calvin E. Stowe, Horace Mann, and Henry Barnard. Educational journalism in America had its beginning with the publication, in 1818, of the first number of the *Academician.* The *American Journal of Education,* edited by William Russell, appeared in Boston from 1826 to 1831. This publication was continued as the *American Annals of Education,* under the editorship of William C. Woodbridge, until 1839. In the next two decades, many educational peri-



James G. Carter.

odicals appeared, although some of them were exceedingly short-lived.

Educational associations. It will be recalled that there had been organized, in the period of early nationalism, various societies for the promotion of education. From 1825 onward, friends of education organized a large number of associations which had for their objects the mutual improvement of their members and the promotion of the cause of popular education. Prominent among these were the Western Academic Institute and the Board of Education, established at Cincinnati in 1829; and the American Institute of Instruction, founded at Boston a year later. These societies, by their publications, conventions, and resolutions addressed to the public and to office holders, developed a solidarity of sentiment for public schools,



Horace Mann.

and contributed to the popularity of the movement. These early societies were forerunners of the National Education Association.

Massachusetts leads in establishing the common school system. Massachusetts was the leader among American states in establishing the common school system. In 1834 she laid the foundation of her common school fund. During the second quarter of the 19th century, she produced a number of leaders of American life and culture. John Quincy Adams, Ralph Waldo Emerson, George Ticknor, and William Prescott were intellectual leaders who profoundly affected higher education in this country. Contemporary with these were James G. Carter and Horace Mann, leaders in the common school movement. Carter published *Letters to the Hon. William Prescott on the Free Schools of New England* (1821), in which he pointed out tendencies in the educational system of Massachusetts that he regarded as harmful to the state, and urged the reform of the system. He established a private normal school and was one of the organizers of the American Institute of Instruction. As a member of the Massachusetts Legislature, he drafted the bill which, in 1837, established the Massachusetts State Board of Education.

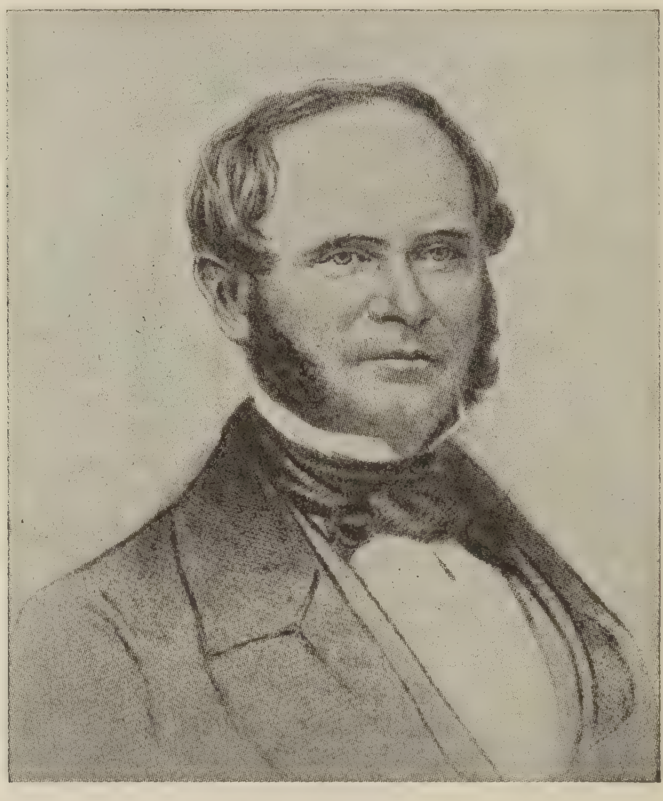
Horace Mann, leader in founding the common school. By far the most influential figure in the common school movement—or, as he would have called it, the common school revival—was Horace Mann (1796–1859). Educated in a district school, at a local academy, and at Brown University, Mann taught at Brown for two years, and entered upon the practice of law at Dedham, Massachusetts. There he served as a member of the school board. Later he removed to Boston. Mann was president of the state senate when, in 1837, the Massachusetts State Board of Education was established. Quite unexpectedly he was appointed secretary of the board, though he had had little experience in teaching, and his only contact with school administration had been gained as a member of the Dedham school board. During the twelve years of Mann's secretaryship he published each year a report dealing with important educational subjects, and suggesting definite improvements in the schools. He also established and edited the *Common School Journal,* a publication devoted to the interests of the common school movement.

Retiring from his secretaryship after twelve years of most arduous and efficient service, Mann served for a short period in Congress. Accepting the presidency of Antioch College, at Yellow Springs, Ohio, Mann removed to the West, where he made his home until his death. He was active in the temperance movement, and was an opponent of the extension of slave territory.

As secretary to the Massachusetts State Board of Education, Mann transformed the common schools of the state, and displayed an energy and insight that made him the outstanding figure in the development of American free schools. He was a flaming evangelist of educational reform. His annual reports cover virtually every aspect of educational enterprise in Massachusetts, and deal with a great variety of topics. He succeeded in so arousing the people of his state that schoolhouses were improved, the quality of school work was advanced, the qualifications and salaries of teachers were raised, the course of study was broadened and enriched, and superior methods of instruction and better textbooks were introduced into the schools. Mann enriched the elementary curriculum by introducing vocal music, history, geography, physiology, hygiene, and moral instruction into schools that had taught only the three *R*'s. Regarding women as more sympathetic and better adapted to elementary teaching than men, he advocated the employment of more women teachers in common schools. Mann encouraged the establishing of school libraries; he worked especially to have books written directly for children and to have books on history, geography, science, and the mechanical arts placed in the libraries.

In a bitter fight with sectarian forces, he was able to promote the secularization of the public schools. Mann encouraged the establishment of superintendencies, and his own work as secretary of the state board demonstrated the value of a central administrative agency at the head of the state system. Mann consolidated small school districts, and thus created larger units of school administration. Thoroughly aware of the importance of school management, Mann interested himself in school organization, and in planning and securing the erecting of buildings for educational work. In 1839, Massachusetts established the first normal school to be founded in the United States. It was opened at Lexington, under the principalship of Cyrus Peirce. Training schools at Barre and Plymouth were opened shortly after.

The scholar of the common school movement. Henry Barnard (1811–1900) shared with Horace Mann the leadership of the common school movement. Distinguished for administrative ability and popular leadership, Barnard took charge of an academy for a year, and then spent two years in Europe, where he studied educational and social reform. He was influenced especially by the principles and methods of Pestalozzi. Upon his return to Connecticut, he became a member of the state legislature. Following the action of her sister state, Connecticut established a state board of education in 1838, and Barnard was selected as its first secretary—a position which he filled until 1842. Feeling the lack of a normal



HENRY BARNARD.

school, he employed and developed teachers' institutes as an agency of teacher training. He established the *Connecticut Common School Journal,* his first undertaking in a field in which he was to rise to highest distinction. In 1843, he was pressed into the service of Rhode Island, and became the directing head in reorganizing the public school system of that state. His health gave way after six years in Rhode Island, and Barnard resigned from his office there. After a short rest, which restored his health, he was again, for four years, head of the Connecticut school system. In 1855, he began the publication of the *American Journal of Education,* which has been by far the most important educational periodical to appear in America up to the present time. From 1858–1860, he was chancellor of the University of Wisconsin, and had charge of all teacher-training work in the state. In 1867, he became the first United States Commissioner of Education. He resigned from this post in 1870, but continued to edit the *Journal* until 1880, when he retired from active work.

Common school system established in all parts of the United States. The eyes of the whole country were turned upon the Massachusetts experiment. Although New York had authorized in certain academies in 1834 training classes for teachers, with state aid, the state immediately established a normal school, developed its machinery of public school administration, and in 1867 succeeded in making the schools free. Pennsylvania passed a law in 1834 which made permissible the establishment of free schools in districts which were willing to support them. Ohio continued to improve its machinery of school administration, and in 1853 made the schools entirely free. North Carolina established a common school system in 1839. State after state secularized its schools; many, if they had not entered the Union with such provisions in their constitutions, adopted amendments which forbade sectarian instruction in schools. By the time of the Civil War, popular education had become the fixed policy of the northern states, and had made a beginning in the South.

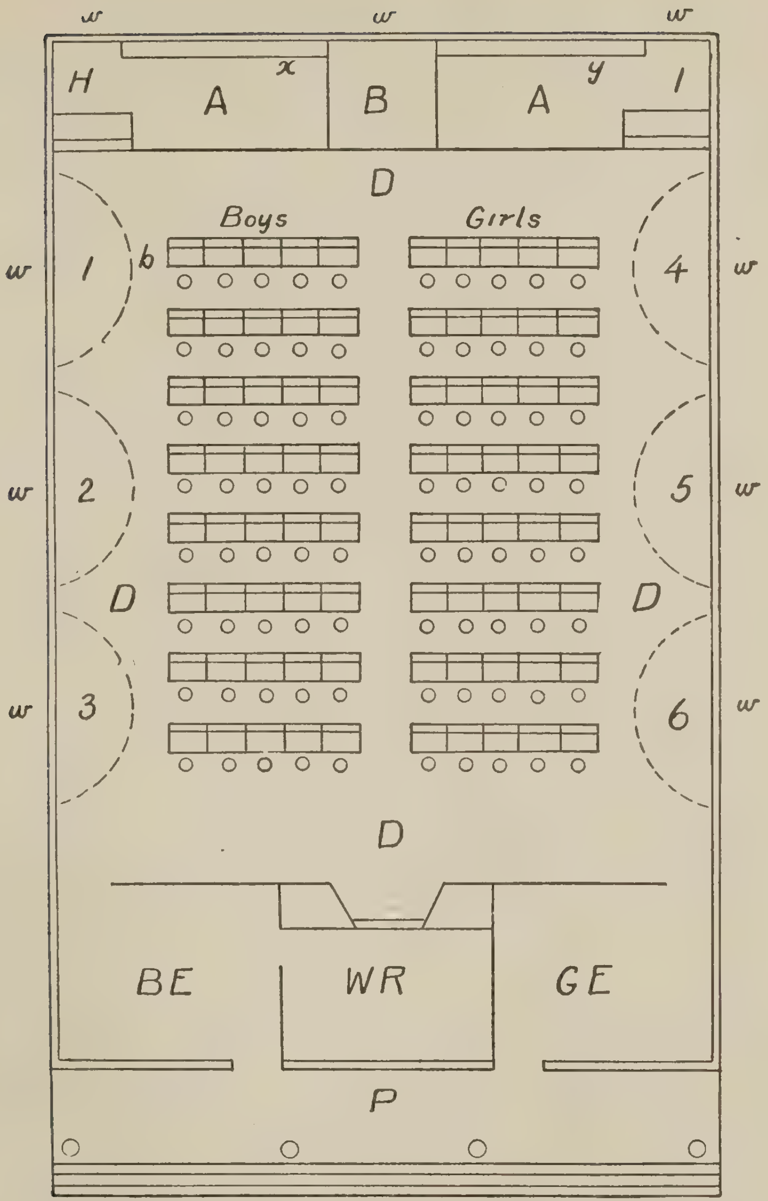
Grading of the elementary schools. Until well into the 19th century the elementary schools were small and few subjects were taught in them. Individual instruction was the rule everywhere. School organization was simple: pupils were advanced from writing in sand to writing on paper, from hornbook to primer, and from text to text. In the Latin schools, classification of pupils by their stage of advancement in the principal subjects of study was fairly well defined; but in the elementary schools of the early 19th century, grading did not exist.

It will be recalled that during the first half of the 19th century, under the influence of the Pestalozzian movement, the course of study of the elementary school rapidly expanded, that cities were growing rapidly, and that greater numbers of children went to school. These developments resulted in an increased number of elementary schools and in schools of larger size than had been the rule earlier. In the growing towns, one-teacher schools were scattered about, without regard to system of organization. For a time the primary or infant schools were separated from the advanced classes. Reading schools were also distinct from writing schools.

Four movements tended to consolidate the elementary work and to bring about grading: (1) the change from individual to simultaneous instruction; (2) the grading of subject matter; (3) the monitorial system, which concentrated large numbers of children in one school; and (4) the employment of trained teachers. Pestalozzi had insisted upon grading, and the system had been introduced into Germany. Moreover, Lancaster, Bell, Owen, and David Stow had demonstrated that school organization may be a great help in improving instruction. Stow advocated a separate teacher for each class, and attempted to organize on this basis the schools connected with the Glasgow Training School. The movement for grading was successfully introduced into America between 1820 and 1850.

In 1847, John Philbrick built a schoolhouse, at Quincy, Massachusetts, in which there were a large hall for all of the pupils and a separate room for each teacher. Even before this time George B. Emerson, Horace Mann, Henry Barnard, and Calvin Stowe had discussed the advantages of classifying pupils and effecting a closer organization of schools. In the effort to deal with large groups of pupils Americans gradually evolved the graded school.

The typical pattern of the graded school as it was developed by 1890 was this: The work of the elementary school normally occupied a pupil for eight years; and the high school,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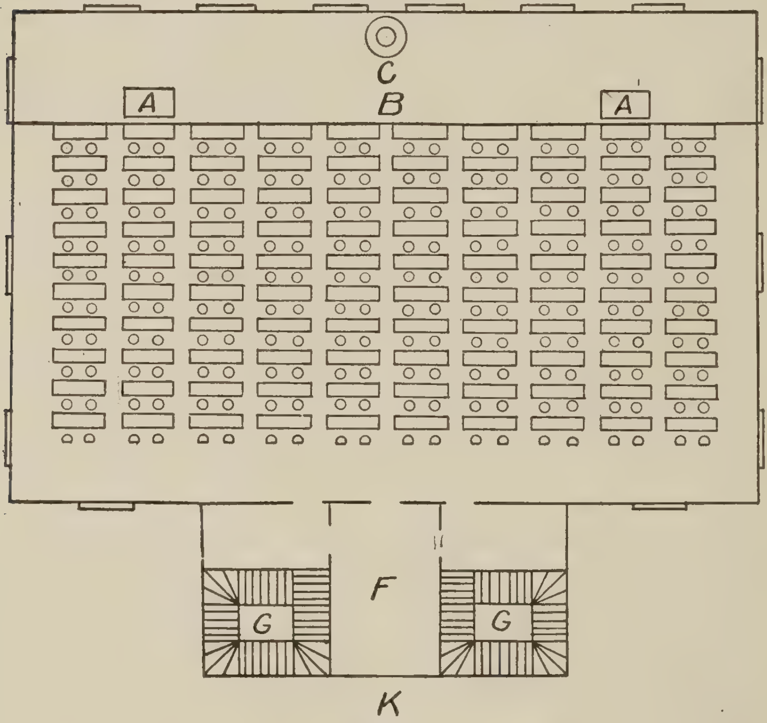
PLAN OF A SCHOOLROOM SUBMITTED, IN 1831, TO THE AMERICAN INSTITUTE OF INSTRUCTION. *Key: P,* portico; *D,* doors; *BE* and *GE,* entrances for boys and for girls; *H,* master's desk; *I,* assistant's, or monitor's desk; *1, 2, 3, 4, 5, 6,* stations, marked on the floor, to be used by classes when reciting to monitors.

for four years. The work of each year formed a unit and was called in the elementary school, a *grade;* in the high school, a *class.* A grade was usually taught by a single teacher. As the century drew to a close, the rigidity of the grouping of pupils in grades led to discontent, and since this time additional plans of organization, which allow for flexibility of grouping, have been introduced into most school systems.



Plan of a Boston School, 1839.

The floor plans of schoolrooms given above are instructive in relation to the evolution of the graded school in which each class has its own room and teacher. The one is the ground plan of a schoolroom submitted in 1831 to the American Institute of Instruction. The room was designed to accommodate forty boys and the same number of girls. The plan indicates the first step, away from the large room of the monitorial system, to the new graded school. The other plan is that of a Boston school in 1839. This room was either for boys only or for girls. It accommodated two hundred pupils, and was in the charge of a master and an assistant. In the next decade a small classroom was added for the assistant; later, as the graded system was adopted, a classroom was included for each year or grade.

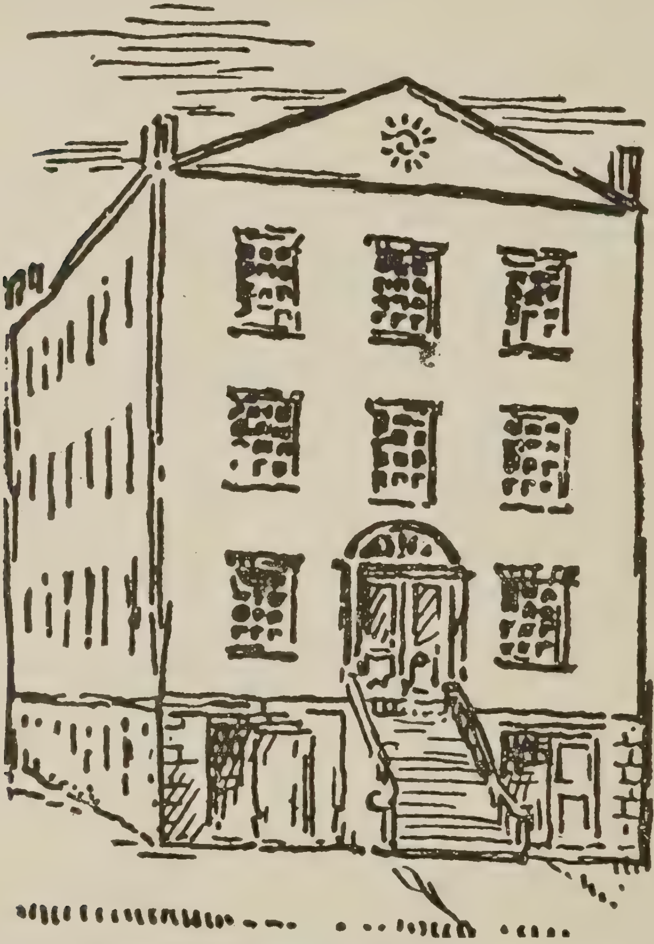
2. Origin and Growth of the Public High School

The high school in New England. The traditional American secondary school, from the beginning of the English settlements to the rise of the academy, was the Latin grammar school. Academies in the 18th and early 19th centuries established courses in which English literature, history, mathematics and its applications, and sciences held the principal place.

The English Classical School of Boston. In 1821, Boston established a classical school to meet the needs of boys who, planning to enter mercantile or technical pursuits, found the Greek and Latin classics of small service to their needs. In this school no language other than English was taught. A similar school for girls was established five years later, but was abandoned after two years; the number of girls was so large that they were sent to higher classes in elementary schools. The boys' school was successful, and, in 1827, Massachusetts enacted a law that required a high school to be maintained in every town having five hundred families or over.

Spread of the public high school movement. The movement spread slowly but surely. It made progress up to 1850 principally in the industrial centers of New England, the Middle Atlantic States, and Ohio. Following the Civil War the high school spread more rapidly, first through the Northeast and the Middle West, then the Far West and the South. The movement constituted a successful effort to extend the free school system upward, and thus provide a higher level of instruction for all children who wished such opportunity.

The effort to provide free secondary and higher education at state expense met with considerable opposition, and the constitutionality of tax levies for its support was denied by some states. In 1872, suit was brought at Kalamazoo, Michigan, to test the constitutionality of a tax levied for the purpose of providing money for the salary of a superintendent of city schools and for the support of a high school. Several years later the State Supreme Court of Michigan, in a decision handed down by Chief Justice Cooley, upheld the authority of the board and the right of the people of the school district to follow their judgment in the matters of employing a superintendent and maintaining a high school. This decision, and



The First High School in the United States, Established in Boston, 1821.

others to the same effect, established the principle in American law that higher education is properly a part of a state's free school system.

3. Federal Interest in Education

Union sentiment and education. In the early years of the Republic there were many people interested in the establishment of a general system of education under the control of the Federal Government, but the movement never attained popularity. From time to time until about the middle of the century, efforts were made to endow state colleges from the proceeds of the sale of federal lands, but such efforts were uniformly defeated. Prominent arguments against their establishment were: Subsidized colleges would destroy existing institutions, and thus invade private rights; education was properly a function of the separate states, not of the Federal Government.

The Morrill Act. In 1862, Congress passed a bill which was signed by President Lincoln and was known as the *Morrill Act.* This act provided for a grant, to each state, of thirty thousand acres of land for each Congressman of that state, the proceeds from which were to be used either to establish in that state a college in which agriculture, mechanical arts, and military science and tactics were to be taught, or to establish departments of these subjects at existing institutions. Eighteen states used the grants to develop schools or departments at their universities; four developed work in engineering and agriculture in connection with private institutions; and the remaining states established separate *land-grant colleges.* Wisconsin, California, and Illinois are notable among the state universities that developed engineering and agricultural courses through the aid of this act. Michigan already had an agricultural college, to which the grant was applied. Virginia, North Carolina, Texas, Washington, and Iowa are examples of states that established separate colleges.

In 1890, Congress passed an act which provided for annual direct grants from the Federal Government for the support of the land-grant colleges.

The United States Commissioner of Education. Congress, in 1867, enacted a law creating a national department of education, with the office of United States Commissioner of Education. The department was the next year made a bureau of the Department of the Interior. Henry Barnard was the first commissioner. During the administration of President Hoover, the bureau became the United States Office of Education. This federal agency, in spite of the numerous restrictions under which it has labored, has rendered at all times most distinguished service to the cause of education in this country.

4. Evolution of the American College from 1830 to 1890

Influence of German universities. During the early decades of the 19th century, higher education in the United States was profoundly affected by a new foreign influence. Contact for the first time with the scholarly universities of Germany aroused an entirely fresh spirit and an exalted enthusiasm which were destined to transform the traditional American college. The readiest way to understand this new inspiration will naturally be to study the character of the German university system, to note particularly how it differs from the English organization in aims and method, and finally to study the ways in which this new and powerful influence laid hold upon the lethargic and traditional institutions of this country.

Character of German universities. "The education of the German Universities," says a French writer, "begins where that of most nations in Europe ends." How did it happen that the higher institutions of Germany were so far in advance of others at the beginning of the 19th century? German scholars proudly ascribe this superiority to two conditions: freedom of investigation (*Lernfreiheit*), and freedom of teaching (*Lehrfreiheit*). Curious as it may seem, the German universities were scholarly republics flourishing within autocratic kingdoms. German professors were accorded opportunity for free and unbiased research such as scholars of no other country enjoyed; they were less enslaved by dogmatism and traditionalism, and were accorded a breadth of liberty in teaching that was not granted in other lands. Not only were they free to search for truth and to impart it without hindrance; but they evolved a form of university organization which actually necessitated scholarly industry and progressive thinking on the part of all members of the faculty. How these fortunate conditions were brought about has already been indicated, in part, in the study of educational reforms in Germany during the 17th and early 18th centuries.

University research not found in England. As early as the 16th century the value of research was urged upon Cambridge University by Roger Ascham, the celebrated and scholarly tutor of Queen Elizabeth. So far as the records show, it was the first occasion on which this was done. Possibly as a result of this suggestion, in 1584, Oxford and Cambridge conjointly petitioned Parliament to make provision for what amounted to the endowment of research. As it happened, unfortunately, this proposal of the universities for research was limited to the study of theology, and the bishops of the Established Church who had seats in the House of Lords induced their colleagues to quash the movement. They feared that freedom of research on the part of the fellows would result only in trifling and insolence, or in secret devotion to the study of law and medicine.[1]

> In fine, they hold such a plan to be "the way to overthrow all colleges, cathedral churches and places of learning," to extinguish the study of divinity; diminish the number of preachers, and breed a great confusion and alteration in the church and commonwealth.

As a consequence of their short-sighted policy, except in rare instances the universities of England, even down to the past century, have not been frequented by the greatest scholars. Bacon, Locke, Darwin, Spencer, John Stuart Mill—to name but a few of England's greatest minds—were not connected with her universities. The advancement of learning in that country was due either to the efforts of scientific societies or to individual enterprise. The universities, never impregnated by new information, usually stagnated in traditional ideas and methods. For a long time the English mind did not understand the relation between university work and research. Even Cardinal Newman, in his *Idea of a University,* failed to discern this relation when he declared: [2]

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[1] Mullinger, J. B., *The University of Cambridge,* p. 309. Cambridge, University Press, 1884.

> [Its object] is the diffusion and extension of knowledge rather than the advancement. If its objects were scientific and philosophic discovery, I do not see why a university should have students.

Contrast with this the conditions in German universities, as given at length by Thomas Henry Huxley, the noted English scientist: [3]

> I believe there can be no doubt that the foreigner who should wish to become acquainted with the scientific, or the literary, activity of modern England, would simply lose his time and his pains if he visited our universities with that object.
>
> And, as for works of profound research on any subject, and, above all, in that classical lore for which the universities profess to sacrifice almost everything else, why, a third-rate, poverty-stricken German university turns out more produce of that kind in one year, than our vast and wealthy foundations elaborate in ten.
>
> Ask the man who is investigating any question, profoundly and thoroughly—be it historical, philosophical, philological, physical, literary, or theological; who is trying to make himself master of any abstract subject (except, perhaps, political economy and geology, both of which are intensely Anglican sciences,) whether he is not compelled to read half a dozen times as many German as English books? And whether, of these English books, more than one in ten is the work of a fellow of a college, or a professor of an English university?
>
> Is this from any lack of power in the English as compared with the German mind? The countrymen of Grote and Mill, of Faraday, of Robert Brown, of Lyell, and of Darwin, to go no further back than the contemporaries of men of middle age, can afford to smile at such a suggestion. England can show now, as she had been able to show in every generation since civilization spread over the West, individual

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[2] Newman, John Henry, *The Idea of a University,* Preface.

[3] Huxley, Thomas Henry, "A Liberal Education; and Where to Find It," in *Science and Education,* pp. 104–107. New York, Appleton, 1896; also New York, P. F. Collier & Son, 1902, pp. 95–98.

> men who hold their own against the world, and keep alive the old tradition of her intellectual eminence.
>
> But, in the majority of cases, these men are what they are in virtue of their native intellectual force, and of a strength of character which will not recognize impediments. They are not trained in the courts of the Temple of Science, but storm the walls of that edifice in all sorts of irregular ways, and with much loss of time and power, in order to obtain their legitimate positions.
>
> Our universities not only do not encourage such men; do not offer them positions, in which it should be their highest duty to do, thoroughly, that which they are most capable of doing; but, as far as possible, university training shuts out of the minds of those among them, who are subjected to it, the prospect that there is anything in the world for which they are specially fitted. . . .
>
> It is not thus that the German universities, from being beneath notice a century ago, have become what they now are—the most intensely cultivated and the most productive intellectual corporations the world has ever seen.
>
> The student who repairs to them sees in the list of classes and of professors a fair picture of the world of knowledge. Whatever he needs to know there is some one ready to teach him, some one competent to discipline him in the way of learning; whatever his special bent, let him but be able and diligent, and in due time he shall find distinction and a career. Among his professors, he sees men whose names are known and revered throughout the civilized world; and their living example infects him with a noble ambition, and a love for the spirit of work. . . .
>
> In short, in Germany, the universities are exactly what the Rector of Lincoln and the Commissioners tell us the English universities are not; that is to say, corporations "of learned men devoting their lives to the cultivation of science, and the direction of academical education." They are not "boarding schools for youths," nor clerical seminaries; but institutions for the higher culture of men, in which the theological faculty is of no more importance, or prominence, than the rest; and which are truly "universities," since they strive to represent and embody the totality of human knowledge, and to find room for all forms of intellectual activity.

Although one does not find England's greatest thinkers in university halls, the case is just the reverse in Germany. Here it was the exception, and not the rule, for a thinker not to be connected with university work. Luther, Melanchthon, Francke, Kant, Fichte, Schiller, Hegel, Helmholtz, Virchow—to name but a few of the greatest—were all attached to universities. This difference is strikingly characteristic of the two peoples.

There is still another fundamental distinction to be noted between the universities of England and those of Germany. All grew out of the original university organization of the Middle Ages, with the four faculties—arts, theology, law, and medicine. However, the practical-minded English preferred to pursue the study of law and medicine by the apprenticeship system: a student of the former attached himself to an attorney; of the latter, to a practicing physician or surgeon. These professional studies dwindled into insignificance so far as the universities were concerned. Oxford and Cambridge became aggregations of colleges rather than learned professional schools; they exalted liberal culture and the A.B. degree. The German institutions, on the other hand, exalted the professional faculties and emphasized the doctorate degrees in medicine, law, philosophy, and theology. The divergence of the two types was further increased by their experiences during the Reformation. The German universities suffered much more acutely than the English, and in the subsequent reconstruction they departed more radically in curricula and methods from the medieval type.

In two other important respects, the German universities have come to differ from the higher institutions of Europe and America: (1) German universities do not exist to furnish general education. That is supplied by the gymnasium, or secondary school. (2) They do not furnish technical or practical training. They aim to produce learned theologians rather than pastors; jurists rather than lawyers; medical scientists rather than mere practitioners; investigators, scholars, and thinkers rather than technical experts and schoolmasters.

The German university professor is not a tutor in the English sense, nor a teacher in the American sense, of the term. He is a specialist in his field—chosen not because of his ability to impart knowledge, but because of his ability to organize and increase knowledge. No man can become a professor in a German university without having given evidence that he has mastered a certain subject of study and produced valuable new results as an investigator.

Periods of influence of German university ideals. The effects produced by German influences on American institutions may be divided into two more or less distinct periods. The first began in the early part of the century and lasted until about 1875. During this period, the real difficulties in adopting German methods and ideas were not clearly appreciated, and the great differences in institutional conditions were overlooked. However, profound results were wrought in the organization, curricula, and methods of the rising state universities of the Middle West; and changes began in some of the established colleges of the East. The second period began about 1875, when the situation had become clarified. It resulted in the organization of graduate instruction and in the effort to articulate the graduate school with the college system.

First period of German influence. At the beginning of the 19th century, German institutions, literature, and philosophy were totally unknown in America outside of the few, widely scattered German settlements, especially in Pennsylvania. George Ticknor, a graduate of Harvard, happened in 1814 to secure Madame de Staël's work *On Germany,* and was deeply impressed by her account of the Prussian universities. When he decided to study the language preparatory to going to Göttingen, he was unable to find a teacher of German in or about Boston; for a German dictionary, he was obliged to send to New Hampshire, where, as it chanced, some friend possessed one. Such was the literary poverty of New England. Even in that great era of her renaissance, Germany and her remarkable philosophy, literature, and science were as unknown to most Americans as was China.

However, this state of ignorance was not to continue long. In 1835 there appeared an English translation of the famous report of Victor Cousin on public instruction in Germany, particularly in Prussia. No other work had such powerful influence in the field of higher education. The University of Michigan and the public school system of that state are deeply indebted to this work.

Dr. Hinsdale has declared: [4]

> It is no exaggeration to say that a single copy of M. Victor Cousin's Report, which found its way into the oak openings of Michigan, produced results, direct and indirect, that far surpass in importance the results produced by any other educational volume in the whole history of the country.

Other reports on German education, by Calvin Stowe, Bache, Henry Barnard, and Horace Mann, aroused intense interest not only in German elementary schools, but in the gymnasiums and universities as well.

Meanwhile a stream of notable American students sought the exhilarating intellectual atmosphere of Germany, and brought back something of its scholarly riches and stimulating enthusiasm. This stream gathered volume as the years went by. Among early names on the rolls of Göttingen may be found Edward Everett, 1812–1814, who later was president of Harvard; George Ticknor, 1815–1816, first professor of modern languages at Harvard; George Bancroft, 1818–1819, the eminent historian; Ralph Waldo Emerson, 1824; and Henry W. Longfellow, 1829. Up to 1850, it has been estimated, fully one hundred Americans were enrolled at Göttingen, Berlin, Halle, and Leipzig. During the latter half of the century, hundreds were every year pursuing studies at German seats of learning. To have studied at a German university placed one in a superior class; the possession of a German degree was an infallible passport into American academic circles. Writing in 1875, Dr. Andrew Ten Brook characterized Germany as "the school of American professors." Many of these men were appointed to academic chairs; others entered professional life in law, medicine, or the ministry.

The influence of American students who had received their higher training in Germany is well stated by Dr. Charles F. Thwing, in his *History of Higher Education in America:* [5]

> The men, therefore, who went from American colleges to German universities in the threescore years and ten from

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[4] Hinsdale, B. A., and Denman, I. N., *History of the University of Michigan,* p. 16. Ann Arbor, University of Michigan Press, 1906.

[5] Thwing, Charles F., *A History of Higher Education in America,* pp. 321–322. New York, Appleton, 1906.

> 1815 to 1885, returning to their native land, profoundly influenced American education. They brought back with them a spirit of freedom in learning and of freedom in teaching, together with a keen and large appreciation of scholarship. The university inspired each of these men to engage in independent research and thought; it quickened the instinct of creation; it aroused a sense of scholarship; it gave an appreciation of the value of scholastic tools, such as libraries and laboratories. Furthermore, it gave to each man a sense of liberty both as a student and as a teacher. . . .
>
> *Wissenschaft*, *Lernfreiheit*, and *Lehrfreiheit* were the rallying cry which inspired American students trained in Germany for doing their great work as teachers and as leaders in their native country. German influence is now passing, as have passed the French and the English. But for the three-quarters of the century in which it was dominant its worth in the development of America was great.

German scholars in America. Then again, a notable number of German scholars were welcomed to American university faculties, and rendered distinguished service. One recalls the renowned names of Charles Beck, Francis Lieber, and Louis Agassiz. These and numerous others spread throughout America a knowledge of German institutions, language and literature, philosophy, science, medicine, and theology.

University presidents trained in Germany. German ideals of scholarship and university organization influenced our institutions most profoundly through a number of brilliant college and university presidents. With but a few exceptions, all the men who effected the most important steps of progress during the 19th century had received an impetus for their reforms from contact with German universities. Among those who must be mentioned are: Henry P. Tappan, University of Michigan; Henry Barnard, Wisconsin; Colonel William W. Folwell, Minnesota; Andrew D. White, Michigan and Cornell; Daniel Coit Gilman, California and Johns Hopkins; G. Stanley Hall, Clark; James B. Angel, Michigan; Charles W. Eliot, Harvard; and Edmund J. James, Illinois.

Of these, the earliest and most enthusiastic admirer of the German educational system was Dr. Henry P. Tappan, president of the University of Michigan from 1852 to 1863. He graduated from Union College, in New York State, under the celebrated Dr. Eliphalet Nott, one of the most progressive men of the age. Tappan began early to form advanced ideas of higher education, and later matured his views by sojourning for some time in Germany. These views he presented to the public, in 1851, in a book entitled *University Education.*

In accepting the presidency of the young university in the Middle West, Tappan was actuated by several motives: "he desired to take part in the creation of an American university deserving of the name," and he had become convinced that only in the new and developing West could such an institution arise. Moreover, a "university in the proper sense, could be built up only as an inseparable part, and a living member of a system of public instruction." He saw no hope of realizing his ideal in the eastern states, where the development of college education was taking a different direction because of the extreme conservatism of the traditional private colleges. As an advocate of the German system, Tappan was fortunate in his call to Michigan; for the founders of this institution had already come under the spell of the report of Victor Cousin on German schools and, consequently, shared his admiration for German university ideals. Both in his writings and in his plans of organization he attempted to follow the German model, which, in 1856, he presented in an address as follows: [6]

> A German university is, therefore, an association of scholars for scientific and educational purposes, as truly as the scholastic Universities; but as much in advance of the latter, as the modern world is in advance of the middle ages in general intelligence and useful improvements. We find here renewed, the freedom, the spirit, the ideal conceptions of the Greek schools; we find preserved in full energy the organization of the scholastic Universities; but, in addition to this, we find the modern University placed in its proper relation as the culmination of a grand system of Education. The good of the past is preserved, the evils are eliminated, the imperfections are supplied, and the unity of all true progress is demonstrated.

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[6] Tappan, Henry P., "Progress of Educational Development in Europe," in Barnard's *American Journal of Education,* Vol. I, pp. 266–267.

Under Tappan's enthusiastic guidance, the University of Michigan became the ranking state university which the younger, rising institutions of the West closely imitated.

Rivaling Tappan's efforts, Charles W. Eliot, president of Harvard from 1869 to 1909, attempted to lift the traditional college to the highest scholarship. This was the most formative period, not only in the history of Harvard, but in the history of American higher education. Rarely do circumstances present a single individual with opportunities so glorious. Coming to the presidency of the oldest American institution, at a strategic moment when the entire school system was ripe for reorganization, Eliot played the role of reconstructionist with consummate wisdom. From a small New England college of the traditional type, he expanded the institution into a powerful undergraduate college, and combined with this a large number of professional schools of the highest order and, also, a graduate school of the first class.

The university versus the college ideal. During the period between 1825 and 1875, a heated struggle raged in regard to the ideal for higher education in this country. A number of causes were slowly at work transforming the character and purposes of the colleges. Among the chief of these were: (1) the increased number of students preparing for secular vocations; (2) the demand for instruction in modern languages, natural and applied sciences, and social studies; (3) the development of professional training; and (4), above all, the coming of the German ideals of productive scholarship or research.

The summary issue of the struggle was whether the university ideal or the ideal of the traditional college should dominate. The actual conflict, however, was waged over a number of specific points—some related to one another, and others of more individual character. These problems may be tabulated as indicated on page 738.

Institutional alignments. The institutions which, during the middle of the century, blazed the new trail were Harvard, in the East, and Michigan, in the Middle West. Particular developments of lasting value took place at several other institutions; these were, however, largely incidents due to some special circumstances and not so much the results of compre-

	UNIVERSITY IDEAL		TRADITIONAL COLLEGE IDEAL
1.	Free elective principle	*versus*	Fixed curriculum, uniform for all students
2.	Modern languages and sciences	*versus*	Classical languages and mathematics
3.	Course system with individual progress	*versus*	Lock-step class system
4.	Specialization and professional training	*versus*	General culture
5.	Lecture and laboratory method	*versus*	Textbook and recitation
6.	Instruction by professors	*versus*	Instruction by tutors
7.	Voluntary lodging in boarding houses	*versus*	College dormitory life
8.	Individual responsibility for conduct, including class attendance	*versus*	Surveillance by college authorities
9.	Voluntary religious observance	*versus*	Institutional religion
10.	Preparatory work, broader and more advanced in scope	*versus*	Fixed and narrow prescriptions
11.	Coeducation	*versus*	Segregation of sexes

hensive policies of reorganization. Harvard, Brown, and, at a later date, Cornell were the leaders of reform for private institutions, as the University of Michigan was the example for numerous state universities just arising in the Middle and Far West.

Harvard College. Numerous changes took place in Harvard College during this half-century. A comparison of the old and the new, as one writer phrases it, shows "that a revolution has taken place, but it is a revolution like that in the England of Victoria, wrought not by sudden shock, but quietly, considerately, conservatively, inevitably."

In 1825, all students were still required to board at the commons; this regulation was subsequently repealed, and students were permitted to board in private families. In 1849, the commons were abolished, and not reëstablished until 1864. Ecclesiastical control, by which certain clergymen and churchmen necessarily composed a part of the board of overseers, was revoked in 1851. The proportion of college students preparing for the ministry grew less and less, and later practically disappeared. Increasing numbers of students who did not intend to enter any of the learned professions attended Harvard; this enrollment necessitated the broadening of the curriculum and the presentation of optional courses.

Compulsory chapel attendance was finally abolished in 1886. Disciplinary rules and regulations were largely dispensed with, and students placed upon their honor as gentlemen. Hazing was abolished in 1872. This period also marks somewhat definitely the time when the class as the social and instructional unit passed away and the lock-step class system ceased. The elective principle was adopted; this practice will receive more extended consideration later.

The University of Michigan. The most notable attempt, at this early period, to organize a state university after the German model was made by Dr. Tappan during his presidency of the University of Michigan.

Up to this time Michigan had been only one of the usual commonplace colleges. But there were elements in the original plans of the institution which could not be wholly forgotten. Michigan's first aims reached far beyond the college ideal to the highest organization of learning. These plans had not been realized, but the ideal persisted. The report of Victor Cousin on the German schools had taken a profound hold upon the leaders who established the public school system of the state. Their plans included a university of the highest order, dedicated to free scholarship. The boundless enthusiasm which Tappan felt for German institutions made him perfectly at home in this western environment. In his writings and public addresses, he dwelt incessantly upon the superiority of German education, and the desirability of realizing a similar system in this country.

Many changes were brought about in Tappan's efforts to transform the little college into a genuine university. In 1852, upon entering office, he induced the Regents to add a "scientific course," equal in standard and parallel to the classical course but leading to the degree of Bachelor of Science. The radical character of such action lay in the fact that, up to this time, science courses were considered inferior in scholastic value, and no institution had placed them within the college of arts curriculum. They were relegated by both Harvard and Yale to separate schools. Another innovation was the provision made in the college of arts for special students who were not seeking degree credits. Moreover, courses of lectures for graduate students were offered, and repeated from year to year. The lecture system gradually superseded the textbook-recitation method of instruction. By these measures, specialization was made possible in subjects other than Latin and Greek. History, English literature, political science, and natural sciences enriched the curriculum. Professional schools of law, medicine, and engineering were organized, coördinate with the college.

In 1856–1857, President Tappan induced the Regents to do away with the college dormitory system and to have the students live in the homes of the townspeople. This step had a deep significance for the development of the university ideal. This same plan was advocated by Henry Barnard in his first address to the Wisconsin Board of Regents, after he became chancellor of the university in 1858–1859. He urged that the dormitory system be brought to an end "at once, thoroughly, and forever." This step was not taken, however, until 1884 at Wisconsin. But the policy of Michigan was normative for practically all the state universities of the Middle and the Far West.

Another innovation subversive of the traditional ideal was the adoption of coeducation. It was effected at Michigan in 1870. This was not, however, the first adoption of coeducation in an American college or university. Nevertheless, this action at Michigan had more than ordinary significance.

Here, then, may be seen the beginning of a state university modeled after the German type and standing in sharpest contrast with the traditional college. President Tappan had declared: "We are a university faculty giving instruction in a college or gymnasium"; he desired to transfer most of this college work to the high schools and, in its place, to offer instruction of university grade. He succeeded in making a good beginning. Yet, the most that can be said was that he produced an institution which was in part a university, and had university ways; however, the vast majority of the students remained of secondary school grade, and needed secondary methods of instruction and discipline.

The crisis: 1869–1876. The controversy over the organization of higher education, which had been raging more or less vigorously for a generation, flamed to its climax at the time of the inauguration of Charles W. Eliot as president of Harvard. Several years of European study, much of it in Germany, had broadened and clarified his vision. In a ringing proclamation, which had the tone of finality, his inaugural address definitely set forth the university ideal.

If any date indicates the final dominance of German ideals and the consequent beginnings of the modern period, it is this time of Eliot's inauguration. Immediately, Dr. Noah Porter, soon to become president of Yale, leaped into the arena in defense of the venerated ideals of the traditional college. In his book *The American College and the American Public,* he attacked every important innovation that had been adopted during the preceding half-century. He pointed to the failure of the Amherst College plans for reform and to the reaction which had followed the adoption of the elective system at Harvard and Brown. He warmly espoused the fixed curriculum rather than the policy of free electives; the study of Latin, Greek, and mathematics rather than modern languages, English, natural sciences, and social studies; the textbook and the textbook method of instruction rather than the university lecture and laboratory practice; the inflexible, lock-step, four-year class system rather than the course system; the common dormitory and strict surveillance rather than ordinary life in unsupervised lodging houses; institutional religion rather than individual piety; preparatory work in academies or under private tutors rather than in affiliated public high schools; college tutors rather than university professors; and separate education of boys and girls, rather than coeducation. Verily he was the apostle of things as they were. With the devotion of a religious fanatic, he believed that the very perpetuity of American civilization depended upon adherence to this collegiate model. He most solemnly declared: [7]

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[7] Porter, Noah, *The American College and the American Public,* p. 325. New Haven, Chatfield & Co., 1870.

> The writer holds that it is vitally important to the culture of this country, he would almost say to the existence of this country as a country, that the American college, with its class system, its fixed curriculum, its generous and earnest common life, and its enforced discipline, should be retained and re-enforced.

Following President Porter, Dr. Andrew Ten Brook, for some years a member of the Michigan faculty, took up the cudgel from the standpoint of the state university. His *History of the American State Universities* marked a new era in the evolution of higher education on this continent. It emphasized and placed beyond question the success of public education at the university level.

It must not be assumed that the right was wholly on either side of the great collegiate controversy. It never is in any vital struggle.

The leaders of the university party looked upon the existing American college as little better than a high-grade secondary school. They saw in the scholarly activity of the German universities the ideal of higher learning, and they expected to infuse this new spirit into the old collegiate organism. They believed that a complete change of aims and methods, as well as the raising of standards of work, was imperative. The easy-going pursuit of prescribed courses must give way to the enthusiastic pursuit of knowledge determined by the student's interest and resolution. The formal drill system must be replaced by a scholarly training. All in all, the university leaders determined to bring about these changes by a thoroughgoing transformation of the college.

The college party, on the other hand, looked upon these innovations as a ruthless and radical departure from the methods of training which the light of experience had shown to be best. A thoroughgoing preliminary training, such as the American college offered, was deemed absolutely essential before students could profit by the freedom and specialization of the German university system. The college leaders were not opposed to the university type of work, but they held that it was not for America, since our students were not prepared for such training and since they needed the strict regime of traditional college instruction.

Chief innovations. The two most significant innovations that marked the change from the traditional college to the university were the elective principle and coeducation. It is necessary to trace, in a general way, the development of each.

(1) *The elective principle.* The adoption of the elective principle created for well over half a century a vast amount of controversy in academic circles. As a matter of fact, free election was the established principle in the University of Virginia from its opening in 1825. Its fundamental policies and standards were far in advance of any other American institution. But, owing to circumstances, Virginia did not play a leading part in the evolution of university organization. There were still other sporadic attempts, in several institutions, to introduce the modern languages and the sciences as electives, but these were incidental events. The leaders in the adoption of the elective principle were Harvard and Michigan.

At Harvard, up to 1825, the course of study had remained the same for all students. Latin, Greek, and mathematics formed the major portion of the curriculum. Beginning with the academic year of 1825–26, some elective studies were introduced, and the principle was then gradually extended for some years. From one-half to three-fourths of the work of the upper years was elective.

Under the presidency of Edward Everett, a reaction against the elective principle began. By 1849–50, "the ancient order of things had been so far restored that with the exception of one elective of three hours in the junior and senior years, all the studies were required." Finally, in 1856, the single elective in the junior and senior years was abandoned, and Harvard was again on a fixed curriculum for all four years.

In 1867, the elective principle was again introduced. It was forcefully advocated by President Eliot at his inauguration, in 1869. He declared: [8]

> It were a bitter mockery to suggest that any subject whatever should be taught less than it now is in American colleges. The only conceivable aim of a college government in our day is to broaden, deepen, and invigorate American teaching in all branches of learning. It will be generations

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[8] Eliot, Charles W., Inaugural Address (1869).

> before the best American institutions of education will get growth enough to bear pruning.

By 1886, the only requirement in the arts course was that of English composition in the freshman year. Later this free system was again modified by the adoption of the group system.

The elective principle was first introduced at Michigan in 1855–56, but was limited to the senior year. Later it was extended to the junior year also, and opportunity for specialization in a few branches allowed. By the eighties, the upper years had been made elective and the fixed curriculum abandoned generally at this institution.

(2) *Coeducation.* Nothing—not even the passing of the dormitory or the introduction of the elective system—heralded so conclusively the new order of collegiate life as did the adoption of coeducation. This practice had been common in some of the academies and in most of the early high schools. The general policy in the East and the South, where college education for women began, was to establish separate institutions for the education of young women. Oberlin College was the first institution calling itself a college, to admit women on an equality with men. This was in 1837. Not until 1867–1868 did the University of Indiana admit women, and it was followed by the University of Michigan in 1870. From the beginning, the other western universities, both state and private, generally organized on the coeducation plan. The problems of college or university discipline have been greatly altered by the presence of both sexes in the classrooms and on the campus. It is, nevertheless, now generally agreed that coeducation is the American custom. Even though segregation had some advantages, it had to be abandoned, in the interest of higher values; especially was this the case in the public institutions.

Results of the university movement. The main facts have been presented in regard to the effort of the colleges to become universities in the German sense of the term. The colleges did not succeed in the effort. There was a deplorable tendency on their part to attempt to add the higher work rather than to improve the quality of the work they were capable of doing.

Concerning this tendency, Dr. Tappan wrote: [9]

> We feel the want of universities; hence, we are continually struggling to give our colleges as much of a university character as possible. . . .
>
> Our Colleges grasp at a University amplitude of studies, at University capacities and functions, and take the name of Universities, and yet Universities they cannot be within the prescribed limits, with the general paucity of learned material and appliances, and while offering themselves as institutions for students in the elementary course. They were elementary schools of a higher grade in their inception, such they have ever continued to be, as such their existence will ever be demanded, and as such they require to be perfected. By retaining their original designation, while endeavoring to graft upon them what belongs properly to a University, we have only embarrassed them in their proper and possible functions, given them an equivocal character, and lessened their usefulness.

However laudable may have been the ambition of the colleges to become universities, one must note in this tendency the pregnant source of future problems. In taking on university functions and methods before it was able to do so efficiently, the college laid itself open to the charge that it had become a hybrid institution—part college and part a weak imitation of a university. This step precipitated a new problem by the end of the century.

A humorous incident related by James Bryce, the famous English author, in *The American Commonwealth,* illustrates this passion for university reputation.[10]

> I remember to have met in the far west a college president who gave me a long account of his young university, established by public authority, and receiving some small grant from the legislature. He was an active, sanguine man, and in dilating on his plans frequently referred to "the faculty" as doing this or contemplating that. At last I asked of how many professors the faculty at present consisted. "Well," he answered, "just at present the Faculty

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[9] Tappan, Henry P., *University Education,* p. 78. New York, Putnam, 1851.

[10] Bryce, James, *The American Commonwealth,* Vol. II, pp. 671–672. New York, Macmillan, 1897.

is below full strength; but it will soon be more numerous." "And at present?" I enquired. "At present it consists of Mrs. Johnson and myself."

Graduate study in America. The first provision for graduate instruction in this country came from the generosity of Bishop Berkeley, the celebrated English philosopher, in a gift to Yale college. The results of this innovation were meager. As early as 1814, Yale separated her few graduate students from the others. In 1861, she conferred the first doctorate of philosophy degree. The University of Michigan, rather prematurely one must imagine, in the fifties announced a "University Course," in which no less than twenty subjects were offered. From 1856–1857 onward, a small number of students returned for advanced work, which required an A.B. or a B.S. degree for admission. At Harvard, also, an early beginning was made, but the chief development came after President Eliot assumed office in 1869.

The real credit for launching work of the highest university level must go to Johns Hopkins University, which was opened, under the guidance of President Daniel Coit Gilman, in Baltimore in 1876. Here, the German ideal of research and creative achievement in higher scholarship began, for the first time, to bloom in this country. In both Harvard and Yale, the graduate schools were closely related to powerful undergraduate colleges with their settled traditions. These graduate schools were necessarily small, and their significance was disparaged; their very existence was parasitic, in that they were dependent upon the undergraduate college. Not only were they subordinated to the college, but they imitated the methods and ideals of the college. Johns Hopkins, on the other hand, was an institution of a new order. There was no college to overshadow it. The university set up an entirely new standard, and injected a new spirit of learning into American education.

Other similar institutions soon followed. Clark University, under the inspiration of President G. Stanley Hall, copied the German ideal, and for many years existed as one of the freest American centers for research scholars along a few lines. The success of graduate work at the University of Chicago, which was founded in 1892, was likewise a powerful factor in the growth of the highest levels of instruction and research.

Professional schools. At the inauguration of President Eliot in 1869, James Bryce is said to have told him that Harvard was "no real university, but only a struggling college, with uncertain relations to learning and research, loosely tied to a congeries of professional schools." The original simple college, founded by the Puritans to train preachers, had by this time evolved into a multiplicity of cultural and professional institutions, more or less loosely related, but under the management of the corporation of Harvard University. Practically all our larger American universities have developed this same character, though the number of professional schools varies greatly in each institution. Around the college of arts and sciences have usually been grouped between fifteen and twenty-five professional schools. New degrees have been originated to satisfy the demand for recognition of distinctive curricula. Some of these adjunctive schools admit students from the high schools, on the same basis as does the college of arts and sciences. Some require one year of college work; some, two years; some, three years; and a few now require a complete college course.

The American university. The resultant institution, the outgrowth of all these innovations, exhibits a quixotic patchwork representing mainly the compromises of divergent interests and not the unity of master minds. It accommodates all levels from the freshmen and sophomores who make up the greater body of students to those who pursue graduate and professional work. The college of arts and sciences remains as a poor correlation of the secondary school and the university. It still clings to the tradition of general culture; but its methods, curriculum, and spirit are controlled by the interests of the professional schools about it and the graduate school above.

5. Formation of the Articulated System

Articulation of the school system. Another movement that profoundly affected the evolution of the American college was the effort to bring all levels of education into an articulate system, with each school preparing directly for the school above.

Looking at public education in the United States, one finds a series of institutions superimposed one upon the other and all rather closely articulated. These, as known until recently, were: the primary school, the grammar grades, the four-year high school, the standard four-year college, and the professional schools. This educational pyramid, so simply and prettily arranged, was not constructed at once. Far from it! It is, however, surprising to learn that not one of these institutions was originally planned to articulate with another. Each arose as a separate and independent unit, and only after lengthy processes of adjustment were they welded into what appears today as a closely integrated system.

Formation of the graded school. Between 1820 and 1860, the schools in the cities and towns were being formed and graded into centralized systems. The first step was the consolidation of the primary school with the reading and writing schools. The age of fourteen years was generally accepted by the towns as the upper limit of free schooling; later it was likewise adopted by many of the states. Thus the children entered the primary grade at five, six, or seven years of age, and remained in the school until they were fourteen. This age, which set the limit of free instruction, accordingly determined the number of grades in the elementary school. By the middle of the century, this first segment of our system—generally known as the elementary, or the grammar, school—had become fairly well determined in its organization, curriculum, and control. It was not originally established, nor in its reorganization was it planned, to prepare students for high school. Its one objective was to furnish a complete common school education for the masses of children who were not expected to go farther.

Early high school an independent unit. The early high schools were entirely unrelated to the grammar grades, on the one hand, and to the colleges, on the other. They even taught pupils of the same age as those in the upper elementary grades. Their purpose was to furnish a more advanced form of training for those boys who were to enter commercial pursuits. Like the academies, which they replaced, they aimed at a broad training for life and vocations, and were regarded as finishing schools. The first high school, the model copied by practically all others, was established in Boston in 1821. To be admitted, students had to be at least twelve years of age, and had to pass an entrance examination. The course of study was three years in length.

In the latter part of the 18th century, children from seven to fourteen years of age were taught free in the Boston English grammar school. Similarly, boys entered the Latin grammar school at seven, passed through seven classes, and were ready for college at the age of fourteen or fifteen. In 1825, the age of admission to the Latin grammar school was made nine years, and the course was shortened to five years in length. The age of entrance to the Latin grammar schools in New England was generally from nine to twelve.

The age of admission to the first high schools varied. Some of them imitated the Latin grammar schools and made nine years of age the lower limit. Others made twelve the age of admission. Among the latter were: Boston, in 1821; Salem, in 1827, and Providence (recommended plan), in 1837. Hartford and the New Haven high schools placed the age at thirteen. A boy had to be twelve to enter the English department of Phillips Exeter Academy. In setting this age limit, these institutions had no thought of the elementary school as preparatory to the high school. During this time, admission to the high schools was generally by an entrance examination. For a long time the examination had no particular relation to the studies offered in the elementary grade school.

Articulation of elementary school and high school. From 1840 to 1850, some of the high schools of Massachusetts began the practice of basing their entrance examinations upon the grammar school subjects—a policy which had not been thought necessary at first. In some cases the requirements specifically stated that the subjects for the admission examinations were the grammar school studies. This was true of the following high schools: Worcester, 1844; Nantucket, 1848; Quincy, 1853; Westfield, 1854–1855; Taunton, 1855–1856; and South Danvers and Plymouth, 1857. It was not until some years after the Civil War that the admission examination was generally abandoned, and that children were allowed to enter the high schools by virtue of having completed the courses offered by the grade schools.

Results of the correlation. The unified city school system was formed by superimposing the high school directly upon the graded school. The articulation was, however, purely external; as no effort was made for a long time to articulate the curricula of the two institutions, the unification was largely superficial and mechanical. The curriculum of the graded school had been designed for the training of the great mass of pupils, and had no special reference to those who were to enter high school. The curriculum of the high school was designed for boys from twelve to sixteen years of age. Consequently considerable duplication of work occurred.

One of the chief results of the correlation of these two schools was the delay in entering upon the high school course. Instead of entering at from nine to twelve years of age, the pupils generally did not enter until after they had completed the eight grammar grades, or usually at fourteen or fifteen years of age. The average age of admission to the Lowell High School in 1846 was 13 years 11 months. This high school had been articulated with the grades. In 1860, the average age of entrance to the Danvers High School was 14 years 8 months; in 1861, the average age at South Danvers was 14 years 11 months, and at Worcester, the first-year high school students averaged 15 years 7 months. In 1858, the school system of Cambridge, Massachusetts, was planned to carry the child through the grade school by fourteen and one-half years of age. This increase of age for entering the high school was to have important results on the preparation of students for college.

High schools as preparatory schools. The originators of the first high schools had no intention of preparing students for college; that was the function of the Latin grammar schools. It had also been undertaken as a secondary function or by-product of the academies; much college preparatory work was also done by private instruction. The Boston High School did not offer instruction in Latin and Greek, and consequently was not designed for preparing students for college. The high schools, in New England especially, took their aims and curricula chiefly from the academies. However, they soon came to be influenced by the objectives and curricula of the Latin grammar school as well. This was particularly true in those places that had never established Latin grammar schools.

The first suggestion that the high school should serve as a college preparatory school was made in Plymouth, Massachusetts, in 1826; it was proposed to change the Latin grammar school into a high school for the purposes of a good, practical, English education as well as for the study of Greek and Latin. It is uncertain whether or not this proposal was ever put into operation. At any rate, Lowell, Massachusetts, in 1831 established a high school "designed both to perfect the English Education . . . and also to fit young men for college." Portland, Maine, followed about the same time; Providence, Rhode Island, in 1838; and Worcester, Massachusetts, in 1845.

> It is evident that by 1840 with a few exceptions such as Boston and Salem (until 1855) the high school had assumed the dual role of a college preparatory school and a training for practical life activities.[11]

In the Middle West, the high schools performed these two functions from the time they were established; in the South, however, they followed the private academies. The two functions were carried out by offering two totally distinct courses of study: the *English course* and the *classical course*.

Articulation of high school and college. Meanwhile the colleges continued in complete isolation and independence. Admission by examination was the practice everywhere. Even in Michigan, where the university founded and supported a number of branch preparatory schools, students were required to pass the university admission examination. But a change took place in the character of the admission examination. Formerly it had been oral; it now became a written test. Formerly it was confined to a knowledge of Latin, Greek, and some arithmetic, but by the end of the Civil War it was based upon so many subjects that a good high school course was practically essential to pass it.

Correlation of college and high school. The final correlation of high school and college began at Michigan in 1870–1871. President Frieze of the university advocated giving admission certificates to the best high school students. The faculty now adopted a plan of accepting students from certain high schools that had been inspected by a faculty committee. Thus it came about that the college required only the high school curriculum of four years as prerequisite to admission, and waived the admission examination.

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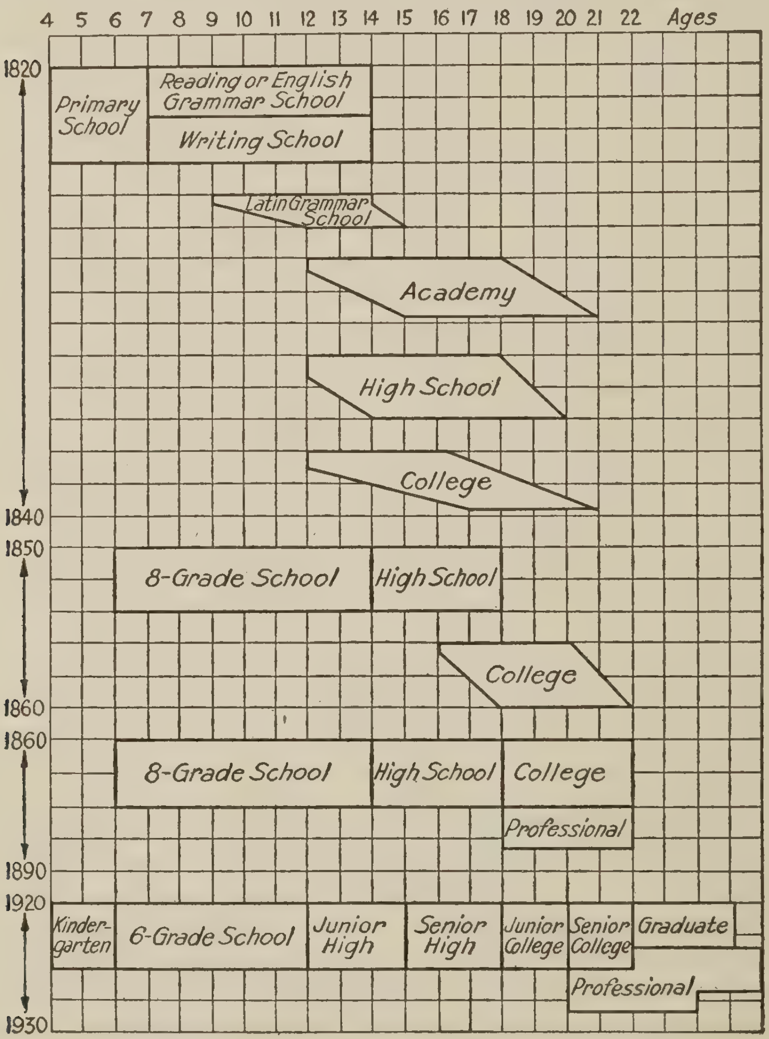
[11] Grizzell, E. D., *Origin and Development of the High School in New England before 1865.* Philadelphia, University of Pennsylvania Press, 1923

The accompanying chart roughly represents the process of evolution which took place in welding the schools of different levels of education into our present articulated system.



Development of the American School System.

For Further Study

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CHAPTER XX

HERBART AND THE HERBARTIANS

1. Herbart's Life, Work, and Writings

Significance of his biography. The life story of a great educator may be of interest either for inspiration or for information—to increase enthusiasm for the teacher's task or to explain the genesis of a particular theory. Pestalozzi and Froebel are illustrations of the first; Herbart, of the second. The former struggled for many years, tasted the bitterness of innumerable failures and popular rejection, and suffered like the heroes of faith. Herbart, however, lived a placid existence of easy success and great honor. Only those facts necessary to explain his remarkable system of education and philosophy will, therefore, be presented here.

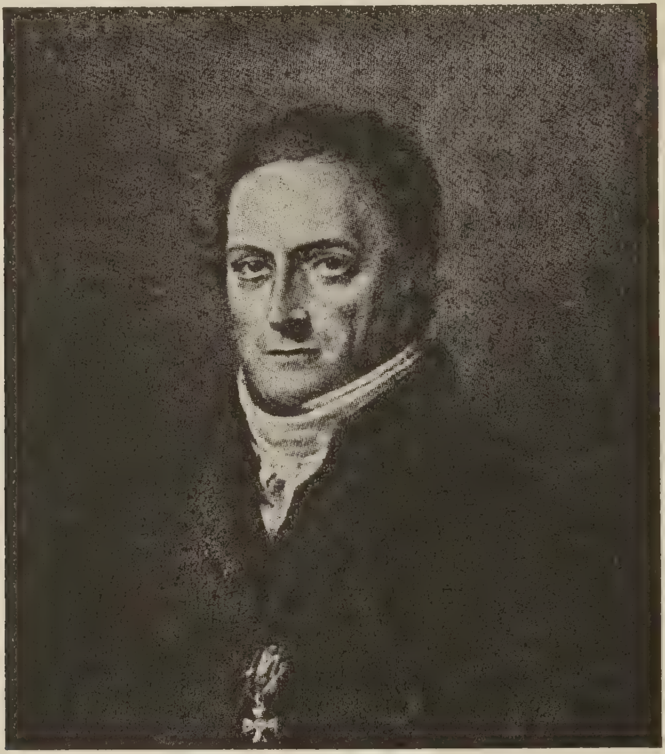
Early life and education. Johann Friedrich Herbart was born in Oldenburg, in northwestern Germany, in the year 1776. His mother was a beautiful woman of superior intelligence and rare literary ability; his father a typical Teutonic lawyer, who rose to the rank of privy councilor. When about five years of age, little Herbart fell into a tub of boiling water; he had, in consequence, a delicate constitution all the rest of his days. The mother devoted herself completely to his care and training, and also to the supervision of his studies. She was present at every lesson, and even studied Greek in order to accompany him in his work.

Elementary instruction was given young Herbart by Pastor Ulzen, who had a short but effective educational philosophy:

> The aim of all instruction is to cultivate clearness, definiteness, and continuity of thought.

One may well believe that the painstaking method of Pastor Ulzen had a strong influence in shaping Herbart's own theory of instruction.

From twelve to eighteen years of age, Herbart attended the Oldenburg gymnasium, where he was graduated with the following official report:



Johann Friedrich Herbart.

> Distinguished among his school-fellows for order, good conduct, and increasing industry in developing and improving his excellent natural abilities.

His talents were varied. In addition to marked ability in mathematics, languages, and philosophy, he was a gifted musician and possessed rare literary taste. His mental abilities ripened early: at eleven, he studied logic; at twelve, metaphysics; and at fourteen, he wrote an essay on the *Freedom of the Will.* As a mere youth of nineteen, he dared to measure his philosophical ability against the most exalted figures of contemporary thought, to criticize the philosophy of Schelling, and to break with the idealism of Fichte. It may readily be concluded that a mind so keen, penetrating, and logical would be deeply conscious of the psychological processes of its own development. Herbart's discriminating observation of his own mental experiences and education, one may well suppose, was the basis of his keen pedagogical insight.

His father sent him to Jena to prepare for the practice of law. Herbart certainly had a mind sufficiently judicial, but he possessed no taste for the study of law. From 1794 to 1797, he attended the university, with his mother as his companion. Here he came into contact with the most brilliant and creative minds in the literary and philosophical history of Germany. Among this group were some of the greatest geniuses of all times: Herder, Wieland, Goethe, Schiller, Schelling, Fichte, and Arndt, to make mention of only the leaders. It lacked Kant, the sage of Königsburg, to make the circle complete. That Herbart and his mother moved in the society of some of these is certain; that he was greatly stimulated by this dynamic atmosphere one has every reason to believe.

Private tutor. At the suggestion of his beloved mother, he left Jena early in 1797 to become private tutor to the three sons of the governor of Interlaken, Switzerland. This action was one of the most decisive steps of his life. It had two highly important results for his career: first, he gained the experience in teaching which was to determine his pedagogical theory; and second, his educational interest had a determining influence upon his philosophy, especially upon his ripening psychological and ethical theories. The three boys were eight, ten, and fourteen years of age when he began, and three years older when he left them. His teaching was, therefore, by necessity as well as choice, concerned with the early adolescent period. From his experience as an instructor he came to believe that the golden period of greatest susceptibility to instruction extends from the age of ten to seventeen, the period in which general education is completed.

Herbart and Pestalozzi. Herbart is usually represented as a disciple of Pestalozzi. It is true that he held the quixotic sage in high esteem, but it is easy to overstress the actual influence of Pestalozzi on Herbart. The truth of the matter is that Herbart had begun, several years before he came into contact with Pestalozzi, to formulate his educational views from his own experience. Moreover, he so far exceeded Pestalozzi in insight and knowledge that it is unjust to this clear-headed thinker to class him with the dear old philanthropic dreamer. At the time when Herbart met Pestalozzi, the latter had not yet entered upon his work in the Burgdorf institute, but was still teaching in an elementary school belonging to the municipality. He had not as yet formulated his educational principles or written his chief educational works.

Pestalozzi was an emotional genius with far-reaching but vague visions of truth. Herbart had all the resources of a subtle dialectician and introspective powers of the highest order. He is called the "father of modern psychology," and also the "father of the modern science of education." How greatly he is respected may be learned from the words of a notable French educator, Gabriel Compayré: [1]

> It is a hundred years since Herbart published his treatise on *General Pedagogy;* it dates from 1806. And yet, this book, now old, answers perhaps better to the needs and aspirations of the hour than any other. At this time, in fact, when democratic peoples are seeking more and more to base their morality on science, it is surely worth while to listen to the voice of a philosopher who believed and tried to demonstrate that all education depends alone on instruction, and that ideas and knowledge are the source of good feeling and virtue.

The psychological and pedagogical, not to mention the philosophical, insight of Herbart so far transcended that of Pestalozzi that one must acknowledge the former moved in a quite different world. It was not so much that Pestalozzi was wrong; but merely that his ideas were provisional and inadequate.

Herbart an educator before becoming a philosopher. Herbart was at once a skilled teacher and a profound philosopher. Like Plato, he was an educator before he became a philosopher. In fact, it was the very problems of education that led to the construction of his speculative theories.

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[1] Compayré, G., *Herbart and Education by Instruction,* Preface, p. ix. New York, Crowell, 1907.

Furthermore, it may be said that he is the only educator in modern times who appears on an equality with the greatest thinkers in the realm of philosophy. The lengthy list and the range of his philosophical writings justify this statement.

Herbart's chief writings are:

1801—*Ideen zu einem pädagogischen Lehrplan für höhere Studien (Ideas for Pedagogical Plan of Instruction for Advanced Studies).*

1802—*Pestalozzi's Newest Writing: How Gertrude Taught Her Children.*

1802—*Pestalozzi's Idea of an A. B. C. of Observation.*

1804—Second Edition of this *A. B. C. of Observation* and, appended thereto, *Die Aesthetische Darstellung der Welt als das Hauptgeschäft der Erziehung (Aesthetic Presentation of the World as the Main Function of Education).*

1804—*Standpunkt der Beurtheilung der Pestalozzischen Unterrichtsmethode (Critical Point of View of the Pestalozzian Method of Education).*

1806—*Allgemein Pädagogik: Hauptpunkte der Metaphysik und Hauptpunkte der Logik (General Pedagogy: Essentials of Metaphysics and Essentials of Logic).*

1808—*Allgemeine praktische Philosophie (General Practical Philosophy).*

1810—*Erziehung unter öffentlicher Mitwirkung (Education under Public Coöperation).*

1811—*Several articles on psychology.*

1812—*Lehrbuch zur Einleitung in der Philosophie (Textbook on the Introduction to Philosophy).*

1814—*Lehrbuch zur Psychologie (Textbook on Psychology).*

1818—*Verhältniss der Schule zum Leben (Relation of School to Life).*

1824–1825—*Psychologie als Wissenschaft neu gegründet auf Erfahrung, Metaphysik und Mathematik (Psychology as a Science Newly Founded on Experience, Metaphysics and Mathematics).*

1828–1829—*Allgemeine Metaphysik (General Metaphysics).*

1831—*Briefe über Anwendung der Psychologie auf die Pädagogik, das Verhältniss des Idealismus zur Pädagogik, Encyclopädie der Philosophie (Letters on the Application of Psychology to Pedagogy, the Relationship of Idealism to Pedagogy, Encyclopedia of Philosophy).*

Herbart's life fell into three periods of university work and scholarly productivity. From 1802 to 1809, he taught at Göttingen, lecturing on education and philosophy. During this time he wrote his chief works on education. In 1809, he was called to the University of Königsburg, in East Prussia, to occupy the world's most distinguished chair of philosophy—distinguished because it had been occupied by the celebrated philosopher Immanuel Kant. Of this signal honor Herbart wrote: "How happy I was to receive the offer of this, the most renowned chair of philosophy, the place which, when a boy, I longed for in reverential dreams, as I studied the works of the sage of Königsburg." Here, in the little university, his chief interests were philosophy, psychology, and education. In connection with the theoretical lectures on education he conducted a pedagogical seminar, in which his students learned to apply the principles which they had discussed in the classroom. During this era his chief publications were along psychological lines. In 1833, Herbart returned to the University of Göttingen, where he died in 1841. His literary productions during this period were few and relatively unimportant.

2. Herbart's Approach to the Science of Education

Herbart's approach to the study of the science of education was pragmatic and direct. While tutoring his three pupils, he had faced the practical situations of instruction; and, as he was required every month to furnish his employer a written report of his methods and results, he thought through his work with all the clarity and system of his incisive intellect. The consequence was that his entire thinking was dominated by the search for a satisfactory theory as well as effective practice of pedagogy.

First, he endeavored to find the aim of all education. He recognized that education is an art and that it must aim at a definite end. The first task of educational science is to discover this ultimate end or objective. Having a clear view of the aim to be attained, the mind proceeds to the discovery of the proper means for the realization of the end. It was this practical investigation that revealed to Herbart the principles of psychology, ethics, and metaphysics that were to guide him in his undertaking. He was well aware that any philosophy that hopes to throw light upon the deeper problems of life and the world must likewise be adequate to solve the problems of education.

Aim of education. *"The one and the whole work of education may be summed up in the concept—Morality."* Such was the emphatic statement of the aim of education as Herbart viewed it when he wrote the *Aesthetic Revelation of the World as the Supreme Task of Education.* By "Morality" he meant good character, or disposition, and social adjustment. He did not mean mere amiability or an unintelligent compliance with conventional manners, but positive personality that clearly perceives the ideal and follows it from choice. Morality is goodwill, and this goodness of will must be constant and unwavering. To express fully this idea of steadiness, he employed the peculiar term "memory of the will," just as Froebel later set forth the end of education as firmness, in these terms: [2]

> To give firmness to the will, to quicken it, and to make it pure, strong, and enduring, in a life of pure humanity, is the chief concern, the main object in the guidance of the boy, in instruction and the school.

A steady, dependable moral character was the ultimate aim of education both for Herbart, the clear-minded, discriminating philosopher, and for Froebel, the practical-minded mystic. But here ends the resemblance between the two greatest educational thinkers of modern times. Herbart directed his thought to working out the science of education for adolescent youths of superior mental ability, while Froebel turned his efforts to the unfolding of the life and powers of children of pre-school age.

For Herbart, the end of education and instruction is the production of the man of culture, who is persistently and consistently devoted by inner conscious purposefulness to the highest ethical ideals of life. It is not that the uneducated man cannot be good; he may be mechanically good—that is to say, he may be good by habit or by imitation; but he cannot be so intelligently good, so freely good, or good in so many minute ways, as the educated man.

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[2] Froebel, F., *Education of Man,* p. 96. Translated by W. N. Hailman. New York, Appleton, 1899.

Herbart explained further that "the moral man commands himself." To educate the youth in such a way that he wills the good, freely and constantly, because it has become his very nature to do so, such is the fundamental endeavor of education.

At a later period Herbart expanded his view of the aim of education. Evidently he came to see that something more than dedication to the moral ideal is needed. He felt it was necessary to explain more clearly the relation of the ideal to knowledge and to vocational and other activities of mature life. The teacher cannot foresee what choices the future man will make, in what activities he will engage, or what vocation he will follow. Yet, by virtue of his deeper knowledge of life, the teacher can foresee what should be the principles which should guide the future interests of the normal man. The teacher represents to the boy the character of the future man. Consequently the teacher, who sees farther and deeper than the pupil, will take care that the future aims which the boy will later place before himself are properly anticipated. He must prepare the boy not only to desire and will those aims, but to have the ability to attain them. For these reasons it is essential to give the boy the broadest possible training. This breadth of training is termed by Herbart "many-sidedness of interest." Only that individual who has the broadest range of experiences and interests, who has contacted life at the greatest number of points, can make with confidence the choices which are best.

These two ends, good moral character and many-sidedness of interest, form the complete objectives of education. They are not in conflict, but, as Herbart thought of them, they form a unity, for many-sidedness of interest is a guarantee not only of sound choices in all the varied moral situations of life, but of wise choice of vocation as well.

Having definitely set up these ultimate ends, Herbart moved forward with clear vision toward their realization. Morality and interest have to do with objects to be desired, choices to be made, acts to be performed, and ends to be realized. It is, accordingly, the supreme business of education to develop insight, to instil the proper interests and desires, to impart inner control, to give the child a chance to see life in all its phases, and to mature his judgments. This complex task can be performed only by what Herbart designates as "educative instruction."

Educative instruction. The great importance of the effects of education upon human life and happiness demands that this art be based upon a sure, scientific method of procedure. Herbart felt that it would be unfortunate indeed if the work of the educator could be easily overturned by some sudden caprice arising from within the child or by some seductive force coming from without. Education must be based upon an unshakeable foundation, and one must be confident that, the inner soul life of the child having once been built up by means of instruction, the labor of education will endure.

The greatest of modern educational reformers—Rabelais, Montaigne, Locke, Rousseau, and the Philanthropinists—had been guilty of disparaging the importance of instruction. First, they insisted that all learning should be made not only pleasant but easy. It must involve no hardship and require no effort. All learning must be sport or play. In a word, they advocated what in the present day has been called "soft pedagogy." Furthermore, they exalted discipline and training above instruction, and belittled the inherent value of learning. The Germans came to employ two words to express these two conceptions: *Erziehung* and *Unterricht,* education and instruction.

Herbart was positively opposed to any such distinction. In his view, whatever imparts clear and true ideas will have its issue also in good conduct. Right thinking must inevitably issue in right action. Therefore, he contended, there is no real discipline without the knowledge and insight which come from instruction. Insisting absolutely, as he did, upon the unity of the soul, Herbart could not logically admit two different processes of education: the one, for discipline and moral training through the will; the other, for intellectual enlightenment through ideas and learning, which come through the intelligence.

The denial of faculties and the assertion of the unity of the soul emphasize the fact that in the educative process all mental functions coöperate in a common task. That is to say, intelligence is not educated at one time by one process, and will, at another time by an entirely different process. As a matter of fact, will and intellect develop synchronously and by the self-same process of educative instruction. Herbart did not believe that knowledge is an end in itself and that it stands apart from will. Knowledge is not so much an end as it is a means. The real end that the educator sets before himself is the producing in the child of a steady will, or purposefulness, conscious of what it is to realize. Knowledge or ideas are the necessary means to this end of an enlightened will. Therefore, in making goodwill the aim of education, Herbart did not place the end outside of the process, but rather within it. Furthermore, in deriving desire and will from presentations, he did not intellectualize instruction, for without presentations or knowledge there could never be any intelligent ends or any will in the higher sense of that term.

By imparting interests and desires to the soul by means of instruction, the educator furnishes the power of inner self-control. The real work of instruction is, therefore, the imparting, not merely of knowledge, but of inner discipline by means of insight.

The clearest statement of the real nature of educative instruction is to be found in the explanation of Compayré, who described it in this manner: [3]

> The governing idea of Herbart's pedagogy, the idea which should guide us if we wish to understand it, is that the foundation, the only foundation of the whole of education, is instruction. There exist, then, no longer two distinct educations, an intellectual and a moral education, as those necessarily were tempted to believe who acknowledged distinct faculties, and who, in consequence, had to provide for the intellect, the senses, the will, and their separate cultivation each by themselves. Above all, there is no education as distinct from instruction. No; the mental nature is a unity, and consequently there is only one education, education by instruction, or educative instruction.
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> We are acquainted with the new force which the word "instruction" gains in Herbart's writings. To instruct the mind is, he considers, to construct it. It is no longer a question, as under the old hypothesis of faculties bestowed

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[3] Compayré, G., *op. cit*., pp. 46–47.

> by nature, of overlaying a more or less trustworthy memory, of causing literary or scientific knowledge to enter an understanding more or less open. Knowledge is no longer a mental ornament, it is a mental element. Knowledge builds and produces mind. . . . It is a consequence of this theory that instruction assumes a profound and delicate meaning, and that quite new duties are imposed on teaching; its office is no longer confined to developing the intellect, since it must create it, and since by the association of memories by regular "series" of ideas, those mental forces are aroused whence spring not only strength of intellect but strength of will.

Herbart, therefore, recognized no other method of educating than by causing the growth and development of ideas in the mind of the child. This must be brought about in conformity with psychological laws. Education is, then, a science and an art which depend on a clear-cut psychology.

3. Herbart's Psychology an Educational Psychology

Herbart was the first to formulate a science of education based directly on ethics and psychology. From ethics he derived the end of instruction; from psychology, its method. As already indicated, he occupies a high place in the history of pure psychology. His greatest contributions in this field may be summarized as follows:

(1) He turned psychology from the speculative or philosophic method to the empirical examination of the facts of mental life. He was the first empirical and scientific psychologist in recent days. (2) He was, also, the first modern thinker to abandon the idea of separate faculties, and to insist upon the unity of the mind in all its operations or functions. (3) He attempted to apply mathematics to psychology, though not with very marked success. Nevertheless, his work along this line led to the development of experimental psychology by his followers. (4) Another field which owes its origin to this great mind is that of physiological psychology.

Herbart's psychology was developed out of his experiences as a teacher, and shows at every turn his pedagogical interest. It is a psychology, not merely of the mind and its contents, but chiefly of the ethical nature; or, better still, it is a psychology of education. It shows, not so much how the mind works when left free to follow its own undirected course, as the processes which must be utilized in reaching a goal beyond the experience of the present—a goal of a new and better life, which is to be realized in and through such experience.

Only a brief outline of the chief points is possible here, though Herbart carried out his analysis into minute detail. However, knowledge of his general psychological standpoint is absolutely indispensable to the understanding of his educational theory.

Three fundamental mental activities. Herbart recognized the three basic activities of the mental life: knowing, feeling, and willing. So far as it represents or conceives, the soul is called the mind; this is the function of knowing. So far as it feels and desires, it is called the heart, or disposition; these are the functions of feeling and willing.

Herbart's psychological standpoint. Two widely different and contradictory views have been held by philosophers as to the origin of these three fundamental processes: thinking, feeling, and doing.

On the one hand, there are those psychologists who look upon the soul as originally empty and devoid of all content or mental activity. According to these thinkers, until the first sensation or perception arises, there is nothing whatever present in the soul. The soul, or the mind, is really born when the first sensation is experienced. By the addition of one sensation to another, all the varied types of mental processes emerge; imagination, conception, judgment, and reasoning are but the results of experienced sensations, and are due to association or other processes. Moreover, the other chief aspects of the mind, feeling and willing, arise from the relations that sensations or perceptions bear to one another. The English associationalists and the French materialists held this point of view, which had its origin in the empirical philosophy of John Locke.

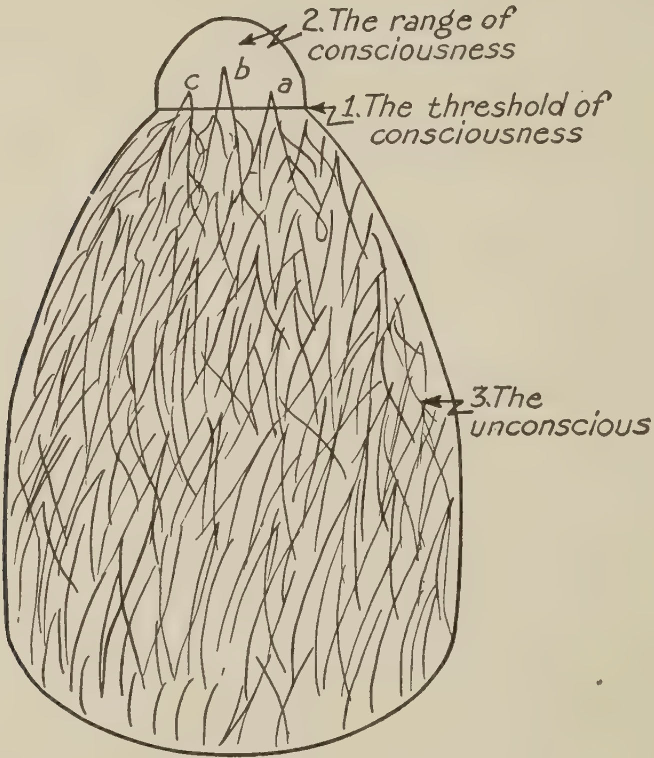
The other point of view looks upon the soul as constituted of various capacities, functions, or activities, which are experienced as impulses or instincts. These are the most fundamental or original aspects of soul life. From the activities of the organism arise sensations, perceptions, and all the other processes of an intellectual nature. Spinoza, Schopenhauer, and many modern psychologists belong to this group. Of the educators, Rousseau, Pestalozzi, Froebel, and G. Stanley Hall based their theories upon this psychological view. Their theories of education assume that feeling, impulse, and instinct are the basic elements of mental life.

Herbart espoused the first point of view, but he differed radically from the materialists as to his doctrine of reality and the nature of the soul. For him, all mental life begins with what he called "presentations." To grasp the idea of a presentation is the first requirement in an understanding of Herbart's involved theory. "Presentations" are the sensations and perceptions of objects. In thinking of them, Herbart meant not so much the mental states themselves, as the significance, the meaning, or the content of the experience. In other words, it is the object itself which is presented. All objects of thought, all percepts, concepts, ideas, or meanings, come within the definition of presentation.

Psychologists are accustomed to distinguish a mental process from its content. Herbart makes no such distinction. For him, meaning and process are one; the significance and the experience are identical. The life of the soul finds its highest existence in concepts. The development of the mind comes with the elaboration of percepts into concepts, for the life of the soul functions in and through concepts or ideas.

A further step in the conquest of Herbart's highly involved theory comes in the relation of presentations or concepts to consciousness. Objects become presentations only when they enter into consciousness. Presentations are objects of thought which have been "presented"—that is, brought into consciousness. The "apple" is presented when one has the sensations of sight, touch, taste, and so on, which make up the experience "apple." Without such presentation through the sense organs, the mind can never experience a living thought of "apple." Herbart insisted, with Locke, Pestalozzi, and others, on the indispensable need of sense perception of all physical objects.

The stream of consciousness. There is this peculiarity of all objects presented to attention: they do not remain long in consciousness. Soon they are pushed aside by other objects of thought. No experience is more indisputable than that the objects in consciousness are constantly changing. What was thought of a moment ago has now faded, and a new idea claims the attention. Herbart observed the coming of new objects, into experience, and introduced into psychology the idea of the "limen," or threshold, of consciousness. In the accompanying diagram, *1* represents this threshold of consciousness; *2* represents the range of consciousness; and *3* represents the unconscious, or subconscious, realm. Also, *a*, *b*, and *c* may be three ideas or objects which occupy the field of consciousness. It will be noticed that *b* occupies the center of the field and attention is focused upon it; *a* is the object or thought which was dominant in consciousness a moment ago, but is now sinking below that level, crowded out by *b* and *c*. In another moment, *b* will also begin to sink, and *c* will take the center of the stage. In this manner, consciousness is constantly shifting from one set of objects or ideas to another.


2. The range of consciousness
c
b
a
1. The threshold of consciousness
3. The unconscious

Herbart's Scheme of Psychology.

Thus the mental life is made up of a sequence of presentations, which ever rise into consciousness and are, then, again superseded by other ideas.

Realm of unconscious mentality. The ideas of consciousness are being constantly pushed aside and seemingly forgotten, but right at this point we are in danger of being deceived. No object once presented to consciousness is ever forgotten. All such former presentations are forced back into the unconscious vault of the mind. This realm of the unconscious is important, for it contains that immense store of perceptions, images, and ideas which are included in all our past experiences. These constitute the subconscious, or unconscious, mind. They are not dead, or inactive, but are real entities, ever ready to spring back into consciousness when a propitious opportunity is presented.

Nature of mental activity. We come now to the most characteristic of Herbart's psychological conceptions. According to his point of view, feeling and willing are the result of presentations and ideas, and not their source or cause. Feeling and willing are secondary, or derived, mental states, and not original states. They are not coördinate in origin with knowledge, but originate from the relation which presentations or concepts bear to one another; that is to say, they spring from objects of knowledge. As Herbart stated: [4]

> *The disposition of the heart* [*Gemüth*], *however, has its source in the mind*—in other words, feeling and desiring are conditions, and for the most part changeable conditions of concepts.

This point must be clearly understood: Herbart did not deny the existence of feeling, impulsiveness, urge, movement, emotion, and volitional energy which are found within the mental experience. He admits them as really as does any other psychologist. But there is a notable difference in regard to their origin. For the one group of psychologists, all these activities belong to the original nature of the soul or mind. According to Herbart, presentations furnish the entire activity of the mental life. Having once been in consciousness and been subsequently deposed, each presentation or concept is as active as an ousted king to occupy the throne once more—that is, to come back again into consciousness. Every past idea or presentation is pushing, urging, striving to enter the focus of attention once more. This condition indicates that the activity of the mind is not something apart from objects or ideas, but that the two are inseparable. An activity without a representative content would be nothing; a presentation which is not active could never become an object of consciousness. This is the central conception of Herbartian psychology.

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[4] Herbart, J. F., *A Text-Book in Psychology,* p. 26. Translated by Margaret K. Smith. New York, Appleton, 1891. This translation is used for all *Text-Book in Psychology* references throughout this chapter.

Origin of feeling. The origin of feeling is to be found in the relations of ideas to one another. Ideas have relations to one another in that they aid or hinder one another in their efforts to return to consciousness. This may be made clear by an illustration. A person goes to the city to perform five tasks. Four of them are accomplished when he suddenly recalls an imperative engagement. This thought rushes up into consciousness, takes full possession of attention, and thrusts aside the fifth errand. A conflict ensues. The person was so anxious to perform the promised task that the conflict of these two ideas produces a strong feeling of dissatisfaction or pain. But, suppose he recalls that the pressing engagement was postponed. This new idea then combines with the idea of the errand to assist in bringing the latter into full consciousness. The result is a feeling of pleasure or satisfaction. In case the engagement hinders the performance of the errand, a feeling of pain results.

A feeling, therefore, is the consciousness of a furthering, or of an arresting, of an idea which seeks to get control of consciousness. When one idea tends to further another in its struggle upward, a feeling of pleasure results; when it hinders, a feeling of pain. Feeling may, therefore, be defined as the consciousness of the rising or the sinking, the furthering or the hindering, of the life activities of the soul. Feeling is a secondary or derived phenomenon, and has its source in ideas.

Herbart had an infinite genius for analysis and discrimination. He classified the feelings to the last degree. However, these details are matters that concern pure psychology more directly than they do education.

Interest. In many ways the most significant and most permanent of Herbart's contributions to pedagogical theory is the doctrine of interest. Others before him had noticed a mental set or readiness which may now be identified as interest, but no one had explained its true character. For Herbart, interest became the basic principle upon which depended all his other principles.

Interest is an inner force making for the retention of an object of thought in consciousness, or for its return to consciousness. This inner force resides in the ideas or experiences. As already explained, it is the nature of all ideas which have once been in consciousness to strive to return. This tendency is increased by two laws of the mind: the law of frequency, and the law of association. The more frequently a concept or idea has been brought into consciousness, the easier becomes its return, and the greater is its power over the individual. This is due to the law of habit. Again, where a number of ideas are closely associated and form a mass, there is the combined power of the mass to dominate the ideas that enter consciousness. Interest is, therefore, the active power, residing in the content of the mind, that determines what ideas and experiences shall receive the attention of consciousness.

The supreme business of the educator is, therefore, to bring constantly into consciousness and to attention those ideas that he wishes to have dominate the life of his pupil. By thus organizing the child's experience, the instructor builds up masses of ideas which, in turn, develop by the assimilation of new materials like themselves. The interests of a physician are in medicine and surgery; of a banker, in money; of a theologian, in religion. This difference is due to the fact that through the years each has been building a different mass of ideas.

Desire and will. These active functions of the mind are related to feeling, and, like feeling, they have their origin in the activities of ideas or concepts, in what Herbart called the "circle of thought." He described it in this way: [5]

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[5] Herbart, J. F., *The Science of Education*, p. 213. Translated by Henry M. and Emmie Felkin. Boston, D. C. Heath, 1902. This translation is used for all *Science of Education* references throughout this chapter.

> The circle of thought contains the store of that which by degrees can mount by the steps of interest to desire, and then by means of action to volition.

Herbart does not believe there is a special faculty of will; the idea of separate faculties was particularly objectionable to him. It was his opposition to this doctrine that drove it finally from modern psychology. Nevertheless, he does recognize will as the highest and most important function.[6]

> Man's worth does not, it is true, lie in his knowing, but in his willing. But there is no such thing as an independent faculty of will. Volition has its roots in thought; not, indeed, in the details one knows, but certainly in the combinations and total effect of the acquired ideas.

The will of the individual is the self, the totality of ideas which constitute experience and express themselves in action. It is the composite of the striving or activity which, as has already been explained, is an inherent element in every presentation.

In general, desire is a state of mind which seeks to bring about some other state of mind. Desire is always directed toward some particular object, and it strives to bring the object into consciousness in such a concrete and substantial way that it will completely satisfy the craving. An illustration will make this clear. A person suffering from fever desires a dish of ice cream. The desire is not satisfied with the mere idea, notion, memory, or image of the cream. It can only be completely satisfied when the patient sees, handles, and tastes the cooling object. If he is convinced that it is impossible to secure the object, the desire remains but a wish. If there is a confidence that it can be realized, the desire may become a volition. When some other idea comes in to interfere with the realization, the desire is arrested or hindered, and, as already indicated, a feeling of pain results.

When a desire is accompanied by the belief that the object can be realized, and there is no hindering presentation, it passes directly over into volition. Any idea, therefore, that fills consciousness to the exclusion of all other hindering ideas will result in immediate action. In the case of the mental experience which is termed "deliberation," two opposing claimants for action compete for attention at the same time, and thus hinder each other. First, the one is uppermost and the results of its action are projected by the imagination; then, the other has its innings. After this process of weighing the value of each is completed, the mind chooses one of the two concepts and excludes the other completely from consciousness. To allow the first concept to fill the consciousness, to the exclusion of the second, constitutes an act of choice, which immediately results in a volitional act.

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[6] Herbart, J. F., *Outline of Educational Doctrine,* pp. 40–41. Translated by Alexis F. Lange. New York, Macmillan, 1901.

The theory that feeling and willing are the outcome of presentations or ideas gives instruction a significance which it cannot have under any other theory. Herbart contends that education works with and through ideas to make the circle of thought.[7]

> How this circle of thought is being formed is everything to the teacher, for out of thoughts come feelings, and from them principles and modes of action.

It is strange, but true, that there is no way in which the educator can impart feelings or volitions directly to the child. He can control the environment to a certain extent, and thus secure a certain reaction from the child. But according to the Herbartian theory, the educator has almost complete mastery. The pupil feels and wills in accordance with his dominant thoughts or presentations; and it is precisely these thoughts or ideas of the child with which the teacher is concerned. By means of ideas he constructs the child's circle of thought. By thus manipulating the ideas which the child thinks, the teacher determines what the child feels and wills. Only on the basis of such a pedagogy, in which he can be certain of the results, can the educator have full confidence in his art.

Analysis, comparison, and generalization. Presentations do not remain separate and distinct, as they originally came into experience. Two changes affect them: (1) They are analyzed into constituent parts; and (2) these parts are regrouped, or associated, into masses of similar ideas or meanings. These two mental processes, which are known as *analysis* and *apperception,* are of the greatest moment to the teacher, for upon their employment hangs the entire art of instruction. It is necessary, therefore, to look at these processes in some detail.

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[7] Herbart, J. F., *The Science of Education*, p. 84.

The process of analysis may be briefly illustrated by the first experience of a child with an orange. When he sees a certain shade of yellow, feels a cool moist softness, and has a taste of orange flavor, the various impressions unite to form a single presentation or object of thought. It must be noted that, by some peculiar gift of the mind, although these various impressions come from separate sense organs and nerves, nevertheless, they are all thought together and constitute one single object. Experience always begins with such wholes. After a time these wholes, or unified objects, are analyzed into their constituent elements, and each quality is thought of separately. This analytic process is facilitated by means of the comparison of different kinds of oranges with that which has already been experienced. In this manner the mind acquires the notion of particular qualities or abstract ideas. All experiences are subjected to this process of being torn apart and their various elements redistributed into classes.

Although Herbart recognized fully the importance of analysis, he placed greater emphasis upon the process of association, for he felt that the teacher's art depended upon it to a greater degree. By association Herbart meant that mental activity which "thinks things together." When the same quality is found in various objects—for example, the yellow of an orange, a flower, and a bird—the quality is analyzed and separated from the objects, and is then conceived as a single idea or an abstraction. Again, when various objects of the same kind are associated in the mind, they form a generalization or a concept. There is still another form of association which was recognized by Herbart. This is the process by which a new experience is taken up and interpreted, and then associated with past experiences of a similar kind. This Herbart termed *apperception,* and, because of its great significance in the art of instruction, it will be treated in detail later.

4. Educational Principles and Methods

Education as a science finds its governing principles in ethics and psychology. The former points out the goal; the latter makes clear the way, the means, and the obstacles. For Herbart, education is not a process of guiding or developing the activities of the child, as certain theorists hold. The teacher has to do primarily with the perception of things; he works directly with objects of thought, ideas, concepts, judgments—in a word, with presentations. He cannot influence feelings or volitions directly; for these, according to Herbart, can be aroused only through the ideas and judgments which control attention. Psychology reveals how the teacher may skillfully manipulate the ideas which are to be brought to attention, and how he may weave the new ideas into the texture of the mind. In this way, the circle of thought is built up.

For Herbart, there is a profound difference between the mind of the educated and that of the uneducated man. The untrained mind, however rich and varied its experiences may be, is invariably atrophied on a lower level of mentality. Herbart recognized three stages in the systematic development of the mind: first, the stage of sensations and perceptions; second, the level of imagination and memory; and third, the highest level, which has to do with conceptual thinking and judgment. It is the function of instruction to elevate the mind from the first to the highest stage. Concerning this situation, Herbart wrote: [8]

> Uncultured men, to say nothing of savages, have hardly any other faculty of understanding than that of their passions. But among educated men there are other concept masses elaborated to the stage of thought called "understanding."

Not only does the work of instruction bring new ideas, but its chief task is to bring about also a closely knit, highly systematized circle of thought. It does this by means of the processes of apperception and reflection.

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[8] Herbart, J. F., *A Text-Book in Psychology,* p. 185.

Apperception and apperceptive masses. How the elements of the circle of thought are associated, whether loosely or closely, depends entirely on how knowledge is acquired. The experience of the uncultivated man is loosely associated; the knowledge of the well-educated is so presented by means of instruction that its parts are closely related to one another, and the unity and strength which each element should derive from its interconnection with the whole are preserved.[9]

> Those only wield the full power of education, who know how to cultivate in the youthful soul a large circle of thought closely connected in all its parts, possessing the power of overcoming what is unfavorable in the environment, and of dissolving and absorbing into itself all that is favorable.

If new presentations are systematically brought before the attention and linked to previously experienced presentations, the new presentation may be expected to unite closely with similar ideas already experienced.

This principle of apperception is one of Herbart's most significant contributions to modern pedagogy. The idea that Herbart had in view is so valuable to instruction that it should be understood by every teacher.

What Pestalozzi meant by going "from the known to the unknown," and what other psychologists mean by "mental assimilation," Herbart expressed by the term "apperception." Two factors enter into the process: first, the datum, idea, or object new to experience; and second, the mass of organized experience that has already been in consciousness and has been relegated to the realm of the unconscious. The body of past experiences, which is most closely related, takes up the new datum and assimilates, or relates, it with itself. The story is told of a child who saw for the first time a pot of ferns; he called it a "pot of green feathers." He did not know ferns, but he had had some experience with feathers. This former experience with feathers came forward in his conscious attention to interpret the new object. Another illustration may be given: The savage looks at an eclipse of the sun, and feels that the forces of darkness and evil are conquering the force of light, goodness, and life. The scientist looks at the eclipse, and is delighted with the accuracy of "celestial mechanics." Each has had the same visual image. It is the inner background of experience which causes the difference in interpretation. The ideas already in the memory, which come forward to assimilate the new presentation, are termed the "apperceptive mass." The process of assimilation of new ideas by apperceptive masses is the learning process and has been likened to the process of the digestion of food.

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[9] Herbart, J. F., *The Science of Education,* pp. 92–93.

> The apperception of Herbart is like the assimilation of food by the body. As new material is assimilated, it becomes part of the living tissue, by contact with which new food can be made to live.[10]

Because of the many wrong implications which it has come to connote, present-day educational psychologists shun the word *apperception.* They no longer recognize a special mental function called "apperception," and the term is rarely used in the newer works on psychology. But other terms are used to express the same idea. In place of "apperceptive mass," the terms "mental set" and "pattern" are usually found. Moreover, the Herbartian idea of apperception was so dominated by his belief in the primary character of presentations or concepts that it does not accord very readily with a psychology which places less emphasis upon the ideational side and more upon the instinctive, motor, and volitional aspects of mental phenomena.

The great importance of apperception in the process of instruction will be most readily appreciated by teachers in the fields of secondary and of higher education. Herbart was not directly interested in primary instruction, but rather in the training of the age at which the rational life of the youth can be constructed by means of a general body of knowledge. The connecting of new ideas with former experiences and knowledge was for him the supreme art of instruction. By careful welding of the new to the old, the "circle of thought" is closely organized and expanded into a compact mental life.

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[10] Monroe, Paul, *Cyclopedia of Education,* Vol. I. Article: "Apperception." New York, Macmillan, 1913.

Thus there is formed the mental condition out of which right interests and desires will arise, and bad ones will be excluded.

Creative thinking. The question arises as to what happens when an individual is confronted by a new object which finds nothing in former experience to apperceive or interpret it. An absolutely new experience is impossible; for experience is an organic growth, and nothing absolutely unrelated to the past can enter thought. Another question has to do with ideas that are contradictory. What happens when the new experience contradicts the old? In case of a contradiction, one side is believed, and the other is rejected and thrust out of consciousness. If both are found to have apperceptive relations, the mind is challenged to find some new concept which will reconcile the conflicting ideas. The most fruitful mental activities come from the efforts to harmonize the contradictory ideas that lie imbedded in uncritical experience. It is these acts of reflection that discover new concepts, and constitute the highest form of creative thinking.

Culture-epoch theory. The theory that the race has passed through certain stages which are repeated in the unfolding development of each individual took a very firm hold of the literary and philosophic world of the 18th and early 19th centuries. It was the fundamental principle of the pedagogy of Rousseau, Pestalozzi, and Froebel. It was likewise at the basis of the new Humanism, which led to the reorganization of the German gymnasium. Herbart and his followers not only accepted the theory as a psychological guide for understanding the nature of child life, but based their curricula and methods upon it. For them, the natural history of the human mind is the best guide for the development of the understanding of the child.

Herbart recognized three stages in the development of character. The first stage is that of sensation and perception —when emotionality is strong and the impulsiveness and caprice of the child must be curbed; the intermediate stage, of memory and imagination—when the child responds to systematic training; and the mature stage, of judgment and universal concepts—when the will has been formed by instruction. In order to understand the real significance of Herbart's culture-epoch theory, one must see its application in the realm of social relations and ethics in relation to these three stages.

One must never lose sight of the fact that Herbart was establishing a social and ethical pedagogy. He believed that the social and ethical relations, the moral purposes and judgments, of adults of his day were altogether too remote and too complex to become the natural desires and interests of children. They must have something far simpler; that is to say, they must have life conditions which are easy to understand and grasp.

The simple social relationships or situations which are most suitable for children are to be found in the lives and activities of early peoples. They are expressed in the literature produced by these peoples. Herbart, and more especially his disciples Ziller and Rein, believed that, as the past was simpler than the present, it must, therefore, be closer to the child's experience and must appeal more directly to his interest. The culture of each epoch in human history is based upon that of the former epoch. In the portrayal of the lives of the heroes of each epoch of history, one finds the increasing complexity of human life and relations. The lives of great heroes are presented to the child that he may perceive, understand, and form judgments of life in situations increasing in complexity. It is, accordingly, not in the study of nature or of science that the education of the young finds its chief materials. It is rather in literature and history. If education is to reach its end, which is the production of moral character, it is necessary that the moral world should be revealed to the child. The revelation of moral life can be made only as the child comes to know the lives, choices, conduct, and ideals of men of former ages. The decisions they made, their ideals of life, and their moral conduct furnish the concrete situations—that is, the raw materials—for the evolution of the moral life of the child. By these means the pupil acquires the capacity to understand and to judge what is right and good in conduct. His moral taste is refined; by seeing the good and the bad, his insight is clarified and he forms right ideals. Thus, the natural history of the moral life of the race furnishes the chart for the growth of the moral life of the individual.

For his task of tutoring adolescent boys, Herbart selected Homer's *Odyssey*. There he found, in the heroic characters of primitive Greece, the simplicity of life and the primitive moral situations which fitted the ethical level of his pupils. Herbart's followers worked out in infinite detail this culture-epoch theory for younger children. They proceeded from fairy tales, Mother Goose stories, and the Old Testament, to the epic literature of the Greeks and the New Testament, and finally to modern literature.

The curriculum. If all soul life is comprised only of the ideas which form the circle of thought, then the curriculum of studies becomes vastly important. There are, in general, only two kinds of presentations: (1) those that arise from experiences of things, and (2) those that come from social intercourse or personal relations. These two comprehend the totality of all that the human mind can know. From the first is derived all knowledge of the objects, the forces, and the laws of nature; from the second is learned the nature of man—his personal relations, morality, and religion. The first is "empirical knowledge"; the other, Herbart calls "sympathy." These are the two constant teachers of man, the two constituent elements of the curriculum.

Experience begins with sense perception of objects. In this view Herbart was wholly in accord with Pestalozzi. The child gathers much of his sensory experience before the period of formal education begins. But the knowledge that he brings to school is faulty in several ways. It is inaccurate; it is partial or narrow in range; it is wholly lacking in system. The task of instruction must be to fill in the weak places by bringing the pupil into direct contact with a wider range of objects, which will round out his information of things. This field of experience includes geography, mathematics, and natural history.

Furthermore, the child's mind must be lifted from the sensory level of the concrete to the higher level of scientific knowledge, from sensation and perception to concept, judgment, and thought. He must ascend from the particular to the universal. This step, which Pestalozzi failed to provide for in his pedagogy, becomes central in Herbart.

The second kind of knowledge, coming from social intercourse, is the more important because it is the basis of all moral development. It ascends from sympathy with individuals and judgments concerning individuals to the broader sympathy with society in general, and lastly has to do with the relation of both the individual and society to God. The studies by which this kind of knowledge and the development of the moral judgment are brought about are found in history, literature, languages, religion, and art. History and literature furnish the opportunities for exercising ethical insight and judgment; for the one presents the actual lives, characters, and conduct of men, and the other pictures in imagination the ethical situations and conflicts which occur in human life. Both history and literature describe concrete, personal situations which call into action the moral judgment of approval and disapproval. Languages, religion, and art likewise reveal the inner nature of man, and advance the moral life.

The followers of Herbart worked out the entire curriculum, in infinite detail. Dr. Karl Volkmar Stoy, professor at Jena, and Dr. Otto Frick, director of Francke's institutions, applied the system to secondary education. The subjects advocated by them were: geography, religion, natural sciences, history, German, Latin, French, and Greek. Among the natural sciences they included: geology, botany, physics, chemistry, and mathematics. The historical interest formed, however, the backbone of the whole body of knowledge. The culture-epoch principle was followed in large measure, and all subjects were correlated into a systematic body of knowledge.

Dr. Tuiskon Ziller, who founded a pedagogical seminary and practice school in connection with the University of Leipzig, and later Dr. William Rein, of the University of Jena, worked out the Herbartian pedagogy for the elementary field, with elaborate details and in many volumes. The following statement of principles governs their choice of materials: [11]

> 1. By following the order of the national culture, and presenting it in the light of ethical judgment, we shall call forth permanent interest in the developing child; hence, *chronological progress from older and simpler, to newer and more complicated stages and conditions.*
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> 2. As a basis for this material we must use child-like classical, religious, literary, and historical matter (Folk

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[11] DeGarmo, Charles, *Herbart and the Herbartians,* pp. 142–143. New York, Scribner, 1912.

> Stories and *Robinson Crusoe* in the first two grades). "Periods which no master has described, whose spirit no poet has breathed, are of small value for education." (Herbart) Only classical presentations invite the pupil to constant and profitable repetitions; they alone furnish nourishment for the interests and aspirations of children. Only through these does the past speak in full tones to the present.
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> 3. Only large, connected unities of subject-matter are able to arouse and keep alive the deep sympathy of the youthful mind, thereby contributing to the development of character. "Great moral energy is the effect of entire scenes and unbroken thought masses." (Herbart.)

Doctrines of concentration and correlation. We are indebted to Herbart for two pedagogical doctrines which have long played a conspicuous role in pedagogical science—the doctrines of concentration and correlation. Herbart did not state either of these principles in precisely the way in which they have been formulated and applied by his followers. By "concentration" he meant the complete absorption of the attention in single acts of thought; it is that mental experience in which the mind is wholly immersed in an object or idea to the exclusion of every other interest. It is the centering or focusing of one's whole consciousness upon a single object of thought.

The disciples of Herbart have given a broader application to the term. They regard "concentration" as the grouping of all studies in the curriculum around one common central study. Such a central subject might be evolution, around which biology, physics, geology and other sciences would be correlated. For elementary education, history, geography, literature, or manual activities have been used by different theorists as correlating centers. Herbart himself looked upon the ethical enlightenment and strengthening of the youth as the central process of education. History and literature are the dominant subjects, while nature study and mathematics are subordinate.

Such a central motive is necessary for several reasons. First, the number of studies that press for a place in the curriculum is too large to treat each of them with equal fullness. Second, the unity of soul life requires that there be a unity in the knowledge of the individual. Third, as has been stated above, the ethical life is the unifying principle of the soul.

"Correlation" is the process which accompanies concentration. It is this process that makes one subject central, but sees to it that each topic studied receives full support from all other subjects. For example, in connection with the discovery of America, history and geography may well be assisted by drawings and maps and by facts taken from nature, literature, and even arithmetic. These two doctrines, concentration and correlation, have played a large part in forming our conception of the scientific educational method of instruction.

Method of instruction. Herbart's method of instruction is as thoroughly unique as his fundamental philosophy of education. In fact, his philosophy, psychology, ethics, and principles of education form a closely harmonized system which finds practical application in his method of instruction. The process of instruction is designed to bring about in the child's mind a compact body of knowledge and such vital interests as will form and control the thought and ethical character of the individual.

Like all the reformers, Herbart had been struck by the apparent uselessness of much that was taught. Most knowledge was merely retained in the memory and had no definite significance for life—in other words, no significance for action. Herbart held that the acquisition of such knowledge is due to a wrong method of teaching, and is harmful to the mind. Such knowledge has not been properly assimilated and related to the experience of the individual; it has not been apperceived. All knowledge which is being rightly assimilated will be learned with genuine interest, will help to form vital ideas, and will pass over into appropriate action. Mere information contains no guarantee that it will affect the will of the individual and find its way into action. It is stored in the memory as so much waste material. To be made serviceable for action, it must be assimilated with the other ideas so as to form living, active masses of thought and interest. The method of instruction which Herbart set forth was designed to build a living mind, for it brings about the growth of the mind in strict accordance with the fundamental laws of human thinking.

The Herbartians recognize five steps in the process of instruction. These are usually termed the "five formal steps of the recitation." These steps are: preparation, presentation, association, generalization, and application.[12]

According to Herbartian pedagogy, these five formal steps are essential in every well-planned lesson. They have been so important in the pedagogy of the last half-century in Germany and America that a fuller explanation must be given.

The five formal steps are the result of the application of the principles of Herbart's psychology and ethics to the process of instruction. All instruction builds on the pupil's experience. At the beginning of education, experience is haphazard, unsystematic, and faulty in its emphasis. Moreover, it does not obey the law of mental progress, from the simple to the complex. Things and events crowd into the mind in masses, and the result is a chaotic conglomeration of ideas. In order that experience may be systematized so that all of its resources will be usable, instruction must perform its function. It must fill in with further concrete experience wherever information is lacking. It must analyze the old experience, and recombine and systematize its materials into concepts. Only by such processes can knowledge become the ready instrument of the soul.

Preparation. This process requires that past ideas, or memories, related to the particular topic which is to be treated in the lesson be recalled to attention. In order that proper assimilation may be assured, the apperceptive masses which are necessary for assimilation must be brought into consciousness. Only in this way can a vital interest in the new material be aroused, and the pupil be prepared to give full attention to the lesson. This step prepares for the rapid understanding and assimilation of the new lesson material.

Presentation. The second step in the psychological ordering of instruction is that of presentation. This process involves the presenting of new material so that the pupil clearly and fully apprehends it. It requires that the concrete object or experience should always be used unless there is already ample sensory experience. Herbart called these first two steps

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[12] Herbart united the first two steps into what he termed "clearness." The last, which is now termed "application," he named "method."

"clearness," because he insisted upon the presentation of the object to the senses in concrete form. In the approach to every new subject, the concrete must always be provided. Not only in the field of sensory objects does experience begin with the concrete; Herbart insisted that in the field of sympathy or human relationships—that is, in the moral sphere—experience must begin with the simplest and most understandable moral situations.

Association. This process involves the thorough assimilation of the new idea, and this takes place by the apperceiving of the new by the old ideas. Points of likeness with former ideas are brought forward, differences are pointed out, and the new idea takes its place in the structure of the mind.

Generalization. Herbart improved upon Pestalozzi, who dwelt only upon the concrete and individual objects of experience. Herbart was well aware that real thinking can take place only as sensory experiences are analyzed, abstract characteristics of objects are sifted out, and general conceptions are formed. These generalizations form a necessary step in the development of the mind to its highest capacity; otherwise, the mind would remain always on the low level of perception and the concrete. This process of abstraction and generalization is especially in harmony with instruction on the adolescent level.

Application. The final step in the acquisition of knowledge in accordance with psychological processes is exercise in using the knowledge that has been acquired. This term does not stress use in a purely utilitarian sense; rather it means that every idea which is learned shall form a part of the living mind, and that it shall aid in the interpretation of life in its enlargement in a clear and vital way. It can do this only if the child learns immediately to apply the new idea and to make it his own. The proper assimilation of knowledge and its use in apperceiving still further knowledge is the only assurance that dead information will not accumulate to burden the mind. To prevent such accumulation has been one of the chief problems of modern pedagogical theory.

5. The Results of Herbartian Pedagogy

Herbartian principles and methods have had a profound effect on modern education. Although delayed for some time in their influence even in Germany, they finally were almost universally adopted. A vast amount of literature, much of it controversial in character, has been occasioned by them. Next to Germany, the system had its most extensive reception in America. Like a tidal wave, interest in this elaborate system swept over American teachers and students of education during the nineties. In the last decades of the 19th century, several American teachers, dissatisfied with the superficial pedagogy of the time, sought deeper knowledge from the universities of Germany. Among these were Charles De Garmo, C. C. Van Liew, Charles McMurry, and his brother, Frank McMurry. Returning to America, all these men occupied important positions in the schools of education in some of the foremost universities and teachers' colleges of this country. They introduced American teachers to the principles of Herbartian pedagogy, and began that remarkable and voluminous outpouring of literature on the subject which came from the press between 1889 and 1901. The following are among the Herbartian works that were translated and published in the United States:

1889—DeGarmo, Charles, *Essentials of Method.*
1890—DeGarmo, Charles, Translation of Lindner's *Empirical Psychology.*
1891—Smith, Margaret K., Translation of *A Text-Book in Psychology,* by Johann Friedrich Herbart.
1893—DeGarmo, Charles, *et al.* Translation of *Apperception,* by Karl Lange.
  Felkin, Henry M. and Emmie, Translation of Herbart's *General Pedagogics and the Moral Revelation of the World.*
  Van Liew, C. C. and Ida L., Translation of Rein's *Outlines of Pedagogics.*
1894—DeGarmo, Charles, *Herbart and the Herbartians.*
1895—Felkin, Henry M. and Emmie, Translation of *The Science of Education and the Aesthetic Revelation of the World,* by Johann Friedrich Herbart.
1898—Felkin, Henry M. and Emmie, *An Introduction to Herbart's Science and Practice of Education.*
1901—Lange, Alexis F., Translation of *Outlines of Educational Doctrine,* by Johann Friedrich Herbart.

Not only were the works of Herbart and his disciples translated from the German; there were, likewise, numerous other books, pamphlets, and articles published explaining or applying the Herbartian principles. Furthermore, the *National Herbartian Society* was organized in 1892, in imitation of a similar organization in Germany. It enrolled most of the leading educators of this country.

Dr. Charles McMurry published *General Method* in 1892. The two brothers, Dr. Charles and Dr. Frank McMurry, published *The Method of the Recitation* in 1897. A large number of other works followed. The wave of enthusiasm for Herbartian pedagogy assisted, in large measure, in stimulating independent study of the science of education by American students. The work of William T. Harris, United States Commissioner of Education, of G. Stanley Hall, president of Clark University, and of John Dewey soon put an end, however, to the slavish adherence to both Herbartian and Froebelian systems. In 1902 the National Herbartian Society changed its name to the *National Society for the Scientific Study of Education*—a change which may well symbolize the coming of age of American educational science.

Evaluation. The psychological and pedagogical theories of Herbart have been discredited and superseded for various reasons. They are now regarded as far too mechanical. His psychological doctrines were formed before the time of Darwin's biological evolution. No one today would accept his fundamental thesis that feeling and willing are secondary functions derived from ideation. Feeling and action are unquestionably older and deeper than knowledge. But it must be acknowledged that, from the standpoint of development and insight into the highest level of man's being, more especially of his ethical life, it makes little difference which side of the mental life is older, since both knowledge and feeling are essential.

Herbart had in view the education of the youth in his adolescent years, when his mind and character are reaching maturity. At this period the intellectual life is undergoing its most rapid growth. While there is a vast amount of emotionalism, there can be no question that, for the higher moral life as well as for the intellectual life, emphasis must be placed upon grafting onto (or implanting into) his nature as many interests as possible. Ideation, or thought, and activity cannot be separated. The higher will is an informed will. Impulse and desire do not spring from ideas, as Herbart imagined, but they cannot become will, in any high sense, without the assistance of ideas. Herbart is right when he endeavors to form the circle of thought as the surest means of forming moral character. Moral character is, after all, not the product of biological evolution, but of social evolution. It has not come from the struggle with nature, but has been wrought in the crucible of interaction with other humans. Furthermore, the processes of idealization and of self-consciousness have assisted in developing insight and moral ideals. Viewed from this angle, no theory of pedagogy has yet risen to compete with that of Herbart on the secondary and higher levels.

The Herbartian terms which were on every teacher's lips thirty years ago, "interest," "apperception," "circle of thought," "concentration," "correlation," "culture epoch," and "formal steps of instruction," have gone the way of all fetishes. New terms and ideas have now taken their places. Nevertheless, these principles of Herbart have not been entirely abandoned. Transmuted into new forms of thought and into statements of greater scientific accuracy, they are still to be found in every textbook on methods and curriculum.

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CHAPTER XXI

FROEBEL: COSMIC EVOLUTION AND ORGANIC EDUCATION

Of all the first-rank educational reformers of modern times—or of any time, for that matter—Froebel has been most highly praised by the few and least understood by the many. His followers of a generation ago regarded him reverentially as the most perfect man since Jesus, and looked upon his writings as well-nigh inspired. Others condemned him as a pantheist, a mystic, a symbolist, and an eccentric old fool who spent his time playing with small children. The Prussian Government viewed him as a dangerous revolutionary, and prohibited the spread of his educational practices.

Today the most common misconceptions in regard to Froebel are that his principles have to do only with infant education; and that he is merely the founder of the kindergarten and nothing more important. Another widespread error is that, because he was a symbolist, his ideas are doctrinaire and valueless. In spite of all the misrepresentation and misunderstanding, Froebel's principles are more widely received and his methods more fully incorporated into western educational practices today than ever. In his *Essays on Educational Reformers,* Herbert Quick candidly acknowledged that he "very imperfectly" understood Froebel, but at the same time he added most significantly: [1]

> All the best tendencies of modern thought on education seem to me to culminate in what was said and done by Friedrich Froebel, and I have little doubt that he has shown the right road for further advance.

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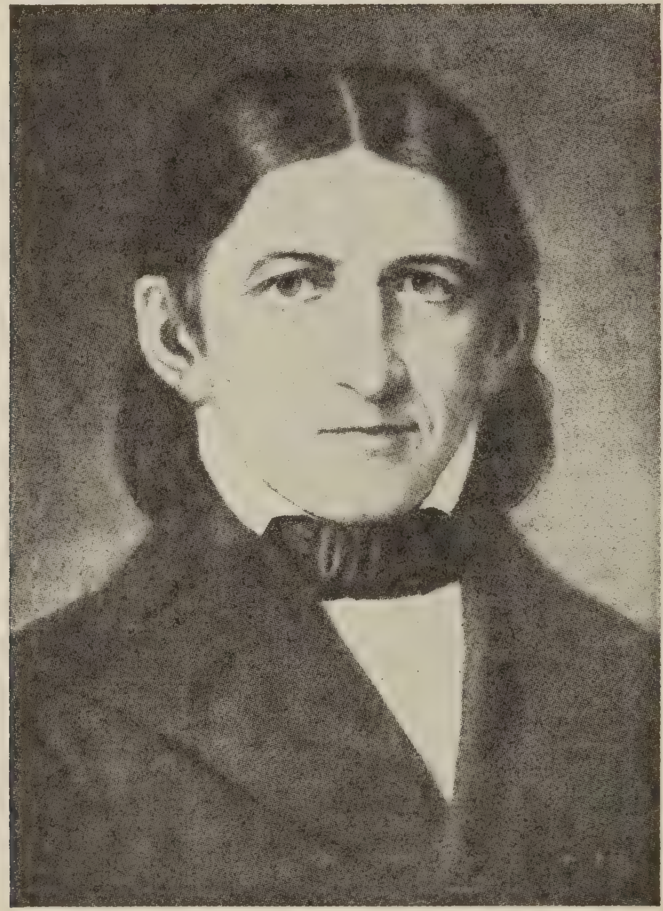
[1] Quick, R. H., *Essays on Educational Reformers,* p. 384. New York, Appleton, 1891.

In spite of his weaknesses, which were largely superficial, Froebel stands today as the most comprehensive and vitalizing educational reformer of the 19th century. If the modern student will make the effort to pierce beneath a somewhat forbidding exterior, he will find an insight that illumines the entire field of education.

1. Froebel's Early Life and Education

Froebel's childhood was extremely unhappy. It was this condition which aroused his genius. The result of his unhappiness was twofold: he formed a deep and abiding attachment to nature, and at a very premature age he became acutely conscious of his own inner life. These two experiences, the unfolding panorama of outer nature, and the awakening of his inner impulse and feeling, account for the two sides of his philosophic and educational theory.

Friedrich Froebel was born April 21, 1782, in the village of Oberweisbach, in the mountains of Thuringia, in southern Germany. His father was pastor of an extensive parish, and was too busy and too lacking in paternal instincts to enter into the life of this son. When Froebel was nine months of age, his mother died. "This loss," he wrote long afterwards, "a hard blow to me, influenced the whole environment and development of my being; I consider that my mother's death decided more or less the external circumstances of my whole life." It was not so much the loss of his mother which adversely affected him, but the attitude of his stepmother, who always treated him with undisguised hostility. Persuaded that young Friedrich was stupid, the parents let him grow up without the usual attention to education. Deprived of parental affection and playmates, the boy soon became moody and subjective. When he was thrown thus upon his own resources, the lad's sensitive heart turned to the hills, flowers, trees, clouds—in fact, to all the phenomena of nature—for companionship. The natural tendency to animism so characteristic of childhood became accentuated into an abiding attitude of mind. It showed itself later in Froebel's philosophy of nature. Moreover, an overwhelming tendency to introspection as a young child prepared him to observe and interpret the experiences of child nature, and gave him a sympathy for children which people generally do not feel. He was not permitted to attend the regular school for boys, but was placed in the school for older girls, which was under the charge of his father.



Friedrich Froebel.

From ten to fourteen, Froebel spent the only happy years of his childhood in the home of his maternal uncle, Pastor Hoffman, of Stadt Ilm. Here, for the first time, he lived the normal life of a boy, and these years had important influences on his development. He attended the parish school, where he received the only systematic instruction of his whole life.

Of greater moment, however, was the benign religious instruction given him by his uncle; this awakened within him spiritual aspirations of the most profound character. At fifteen, he was apprenticed to an expert forester, who failed to train him as he agreed to do.

In the spring of 1799, when seventeen years of age, young Froebel was sent on a mission to his brother, who was studying at the University of Jena. At that time Jena boasted the most remarkable group of celebrities ever to be found at a modern German university.[2] It is impossible to estimate with any degree of precision just how deeply may have entered into Froebel's experience the rich and varied intellectual and literary activity that centered about the little university. At any rate, he decided to remain there and gave himself over to hard study, though it was chiefly along elementary lines. His lack of systematic preparation prevented him from appreciating very fully the more profound currents of intellectual activity that swirled about him.

Leaving the university, he made various attempts to find a vocation that would be permanently agreeable. But he always felt a deep dissatisfaction with everything he took up, until by a happy accident he was invited by Herr Grüner, of Frankfort, to teach drawing in his normal school. Froebel immediately recognized that educational work was the only activity that answered the longings and was in harmony with the capacities of his nature. The most significant stages of progress in the ripening of his educational genius appeared gradually. From 1807 to 1810 he undertook the training of three young boys. Most of this period he spent with his charges at the school of Pestalozzi at Yverdun. Together with his pupils, Froebel attended classes and thus had the opportunity to learn in detail the methods and principles of the celebrated "father of modern education." By 1810 he had reached the conclusion that, while Pestalozzi had made a remarkable advance beyond his predecessors, yet his ideas were tentative, lacking in clearness and solidity, and were far from forming a perfected science of education. Of this experience Froebel declared: [3]

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[2] See page 757 of this text.

[3] Froebel, F., *Autobiography,* p. 79. Translated by E. Michaelis and H. K. Moore. Syracuse, C. W. Bardeen, 1889.

> I soon saw much that was imperfect. . . . The powerful, indefinable, stirring, and uplifting effect produced by Pestalozzi set one's soul on fire for a higher, nobler life, although he had not made clear or sure the exact way towards it, nor indicated the means whereby to attain it.

There can be no doubt, however, that this contact with Pestalozzi furnished the preparation for Froebel's own educational reforms.

Scientific investigations. Dissatisfied with the tentative and unscientific character of Pestalozzi's principles and practices, Froebel decided upon a new and radical step. His mind was many-sided, introspective, observant, and critical. Above everything else was an insatiable craving for principles that would explain fully the underlying laws of all phenomena. His great contemporaries in the field of philosophy, Fichte, Schelling, and especially Hegel, each endeavored to reach a knowledge of the universe by means of philosophical speculation alone. Froebel, on the contrary, began to form his philosophy by systematic study of the positive, empirical sciences.

The last decades of the 18th and the first of the 19th century witnessed a remarkable forward movement in the various realms of human knowledge. The study of philology by F. A. Wolf, Boeckh, and Schlegel had revealed the original unity and the subsequent development of all languages. Chemistry had divorced itself from its primitive theories, and Black and Priestley had set it on its triumphant path toward positive science. Physics and geology had made astonishing progress. Froebel plunged with burning zeal into the study of all these fields, as well as mathematics, in which he was already fairly proficient. Especially, however, did he devote himself to the study of mineralogy, which more than anything else satisfied his deeper intellectual cravings. For a time he studied at the University of Göttingen, but later went to Berlin to work under Professor Christian S. Weiss, celebrated for research in mineralogy and natural history. Froebel also heard lectures by Fichte, the most renowned philosopher of the time. The fact that Froebel rose to be assistant curator of the mineralogical museum at Berlin, under Weiss, and the further fact that he was offered a professorship in mineralogy are evidence of his ability as a student of science.

Froebel's work at Berlin was interrupted by the renewal of the Napoleonic wars. Being a patriot, he volunteered for service, to save the fatherland. He did not see any actual fighting, but this experience brought him some new friends who were to be his life-long associates in his educational enterprises.

Educational institutions. In 1817, after a preliminary experiment the previous year, Froebel opened a school for boys at Keilhau, in Thuringia, similar to Pestalozzi's famous institution at Yverdun. In this venture he incorporated his principles of elementary education. The school was not a great success. In 1831, Froebel left Keilhau to his assistants and went to Switzerland, where for some years he conducted several institutions. In 1836, partly because of the ill health of his wife, but more because he had reached a decision to devote his life to the reform of pre-school training, he broke away from his work and returned to Germany.

The next year, in an old mill in the mountain village of Blankenburg, he opened the first kindergarten. From this time until his death, he devoted his efforts to the founding of kindergartens, the training of kindergartners, the elaboration of his methods, and the creation of apparatus for these institutions. His views were enthusiastically received by a few, but were not widely adopted in Germany because they were not understood and because they were imbued with the democratic spirit. In correspondence with some followers in the United States, Froebel declared that only in America would his ideas have complete expression. He died in 1852, at seventy years of age.

2. Froebel's Evolutionistic Philosophy

Sources of Froebel's ideas. The originality of Froebel's ideas was challenged from the start. Certain German authorities dismissed his pedagogy with the curt remark that he had nothing which was not found in Pestalozzi. His views have been discarded by some and contemptuously avoided by others because he was regarded as visionary and mystical. Only within the past generation, especially in this country, has he been studied widely and critically. That he was an independent thinker with creative and constructive ability can no longer be doubted. That much of his thought was influenced by contemporary philosophers and educators he was frank to avow. One may recognize four sources from which he drew: (1) the general movement of post-Kantian philosophy; (2) the developments of science; (3) the writings of the great educators; and (4) his own keen scientific observation of human development.

Froebel was exposed at Jena and later at Berlin to the most dynamic movement in the history of modern philosophic thought. Among others he studied especially the systems of Bruno, Fichte, and Schelling. While these systems harmonized in general with the trend of his experience, they did not satisfy him. It was rather the philosophy of K. C. F. Krause which furnished him a world orientation (*Weltanschauung*) in accord with his own experience. Froebel had always been deeply introspective—a keen observer of the processes of human nature. At the same time he was profoundly interested in all the phenomena of the external world, and the unification of the subjective and objective. As Froebel believed, Krause harmonized more successfully than others had done the different methods and the various fields of knowledge. Most important of all, he applied his knowledge more satisfactorily in an explanation of human evolution.

In Krause's comprehensive system of philosophy, Froebel found his own views of life quite fully expressed in philosophic form. Krause was not what philosophers call an Idealist, like Fichte and Hegel. He may be more accurately termed a spiritualistic Realist. His system is not materialistic nor naturalistic, and it skillfully avoids pantheism. Krause's view has been most aptly termed *Panentheism,* that is, everything is in and through God, and is an expression of His creative will. It is noteworthy that Krause's philosophy was treated by the Germans with the same cold indifference that Froebel's educational theories were awarded, and for the same reasons. Both of these thinkers were democratic in sympathy and, accordingly, in direct opposition to the movement for absolutism and national bigotry. Krause was one of the greatest thinkers of all times; his social, legal, and political theories are still in advance of human development, even in the 20th century. Froebel's life-long striving for all-sided unity found its clearest expression in this spiritualistic system.

The second source of Froebel's general philosophy was scientific knowledge. He studied languages to discover the genetic development of human experience; he studied mathematics for the light it sheds in revealing the laws of astronomy, physics, and mineralogy; he studied botany for the laws governing the evolution of plant life; he studied the child and the human mind in order to learn the course of human development. Much of the difficulty of understanding Froebel today, however, is due to the fact that he based his ideas of evolution on the philosophic notions and the highly speculative sciences of a century ago, and not on the principles of objective biological research.

The third source of Froebel's views was the literature of education. That he read Rousseau seems clear, though there is no direct statement to that effect. The likeness of their principles and methods in so many points warrants the conclusion that Froebel was a Teutonic Jean Jacques. Froebel's direct study of Pestalozzi's ideas and practices naturally colored his whole thinking, but to class Pestalozzi with Froebel is to confound the blossom with the ripened fruit. Arndt and Comenius had influence upon his ripening views in later days. There was also a less celebrated author who contributed much to Froebel's philosophy, Johann H. G. Heusinger (1766–1837), who in 1797 published an educational work entitled *On the Utilization of the Child's Powerful Tendency to Activity (Uber der Benutzung des bei Kindern so thätigen Triebes, beschäftigt zu sein)*. Heusinger had followed out in practice the ideas of Rousseau and Basedow. Froebel's copy of this work was much used, and the margins were filled with comments. It is possible that he knew Heusinger as an instructor of mathematics at the University of Jena.

But Froebel's mind was too independent, too original, to accept with docile spirit the views of others. In combining ideas from these various sources, he was unquestionably constructive; and in working out the implications of his fundamental conceptions in educational principles and apparatus, he showed marked creative ability. The chief educational principles of Froebel are to a large extent assignable to his direct observation of the natural activities of children. Especially in his maturer years was Froebel strongly intent upon the observation and accumulation of facts concerning children's development and activities, and upon the interpretation of these facts in a rational genetic theory. Especially did he seek to know what things children produce, and how they act when left to their own spontaneous devices. He aimed to base his methods and his kindergarten apparatus upon such objective scientific knowledge. The truth is, much may be said in defense of the view that Froebel is the most original and scientific reformer who has yet arisen in the pedagogical world.

Froebel's fundamental philosophy. It is Froebel's fundamental philosophy that forms the chief stumbling block in the understanding of his educational theory. Yet it is just this basic theory which gives it imperishable vitality. His ideas are so much in accord with modern conceptions that there is little justification in neglecting his philosophy.

Froebel is the chief modern thinker to view education as an element in the process of cosmic evolution. For him, education is not merely the passing on of a certain funded experience from one generation to the next, nor the development of certain capacities or powers, nor the inculcation of certain habits of reaction by which the individual becomes adjusted to his environment. It is, rather, a process which includes all these and goes far beyond them. In his first important book, *The Education of Man,* Froebel indicates that education is the process by which the individual develops into self-conscious manhood, with all his powers fully and harmoniously functioning in relation to nature and society. Furthermore, education is the method by which mankind as a whole originally developed out of nature above the animal level, and has continued to develop to his present condition. It comprehends both individual and racial evolution. Moreover, in accordance with this same procedure, the race and the individual will continue to evolve to higher and higher levels to the end of time.

Froebel's philosophy begins with what the philosophers term the Absolute, and the theologians call God. He conceived this original being as an active, energizing, creating, intelligent, and self-conscious source. Creation is not an act performed once and for all; it is rather a continuous process of productive activity. Fichte derived nature from mind, and Schelling derived mind from nature. Froebel, on the contrary, derived both nature and mind from an original unity, a self-active or spontaneous spirit. In the physical universe, this creative spirit is experienced and known as force; in man, it rises to the highest level and is known as spirit and thought. In man this activity becomes conscious of its own nature and ends.

In their essential character, force and thought are both, in reality, the same activity of God. The divine energy unfolds into the manifoldness of nature and into the complexity of man. Everything is divine in origin and essence; in fact, everything is an expression of the divine essence or creativity. Since God's nature must express itself in creative activities, it is necessary for Him to individualize His being. In order for any being to will or to act, it is necessary to perform particular acts. The general, which is merely the ideal, must become particularized if it is to find expression in action. So it is imperative for God to express Himself in a world of particular objects and beings.

The doctrine of unity. The most original doctrine of Froebel's philosophy, the one which runs through his entire system of thought, is the conception of unity. For many people, this is the most mysterious and incomprehensible of all his principles. It had its roots in his innermost experiences throughout his entire life, but found its best statement in the philosophy of Krause, who universalized the idea of organic unity and development. This conception was so novel that Krause was obliged to invent a new term to express it. The word which he coined was "part-whole" *(Gliedganzes)*.[4] One may illustrate its meaning in this way: The finger is a unity when considered by itself, but at the same time it is part of the hand. The hand is a unity in and of itself, but it is part of the arm. The animal world is a unity or whole, but part of the organic creation. The organic creation is a whole, but part of the earth. Thus, every object in the universe has this twofold aspect: it is at once a unity in and of itself and, at the same time, a part of some more comprehensive entity. The entire universe is a living organism, the unity of which is God. He has unfolded into the manifold universe without losing His unity, just as the inner life energy of a cell unfolds into the complex body of an animal without losing its organic or functional integrity. In the organic world, plants and animals are living unities or organisms. It is the nature of life to develop such organisms by means of a central propagating power. This same unifying power maintains each cell and organ at its own proper size and function. Such was the organic conception which Froebel accepted as the basis of his educational theory.

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[4] *Glied* is the German for "part" or "member," and *ganzes* is "whole."

Krause and Froebel agreed in extending the principle of organic evolution to the world of mind and its relation to the physical order. They maintained that man is a unity and not a duality. The normal functioning of man's diverse organs and mental capacities springs from the unity of the organism. The individual in all his functions strives to maintain this unity of life. An example of functional unity may be seen in any productive activity, in which physical movements and mental processes always function together. For illustration, in the making of any product, the memory, imagination, perception, reasoning, will, and feeling coöperate with the nerves, muscles, and sense organs. Owing to the fact that all organs are exercised in unity, Froebel considered productive activity the most efficient means of education. Older practices of education and methods of instruction which called into action separate faculties were destructive of unity and, consequently, injurious in their results.

This doctrine of unity may also be seen in the objects that man produces. Each product is a unity by virtue of the distinctive purpose or function that it performs. The chair, the hoe, or the bridge—each is a unity in itself because the mind of man has ordered the materials for the attainment of a certain end. The automobile, composed of a multitude of parts or of mechanisms within mechanisms, has many unities within the one comprehensive whole which is an agency for transportation. By virtue of its function the automobile is one, and not many.

The idea of unity rises to highest significance in the case of human relationships. It is the explanation of all social life, of all institutions, and of religious life. The individual human being is a unity or whole when considered in and of himself. But only as he is related to others and participates in the general life does he maintain his unity. The hand is a unity when it performs its functions in relation to the organism. Severed from the body, it loses its unity and becomes just decaying flesh and bone. So it is with human beings. Individuals enter into relations one with another, and form organizations for the realization of certain purposes. Such organizations are functional unities in so far as they realize their ends.

God is the original organism, the primordial unity from which the entire universe has evolved by virtue of His creative self-expression. He is the ultimate unity, in that He combines all things in Himself. Man's sense of unity with God constitutes religion.

General theory of development. In trying to grasp what appears so mysterious in Froebel's philosophy, it is well to keep in mind that all his thinking was surcharged with the biological or organic conception of development. He looked upon man as the "human plant." He shared this conception with Pestalozzi and others before him, but he extended it to a wider range than did any of them. For him, organic life and purpose are identical. To understand his view, picture a seed planted in the warm earth in springtime; observe the living green shoot which comes out of the seed, the division of this shoot into several branches, and the burgeoning of new buds or leaves on these branches. Such is the background idea. Now, let this picture of the natural, gradual unfolding of the plant organism be generalized; that is to say, apply it to everything in the entire universe. First, apply it to the inorganic world. Because of his detailed study of the formation of crystals, Froebel was led to extend the principle of development downward through the entire inorganic creation. Whether it be in the forming of a crystal, a rock, or a planet, all are evolved in precisely the same way, and because of one and the same unfolding force.

In considering this unfolding of the seed into the plant, it is important to look deeper than the outer appearance. In the seed or plant there are at work certain unseen forces which are building the structure of the plant out of the particles of matter that are taken in by the roots. These creative forces are directed and governed in their action by an inner law. This same law directs the world's physical evolution, everywhere and in all things. Froebel believed that this same principle or law is operative in the realm of all life, animal as well as vegetable. The animal develops according to the same law as the plant. The inner, active forces push forth in their need of expression, and form the many organs of the body.

But Froebel was not content to apply this law of development to the inorganic and the biological realms. He took a further momentous step. He declared that the same law of development reigned in the spiritual realm, in will and thought, or mind. He looked upon the activity of man's mental nature as caused by the same force that forms the crystal or the living organism. Moreover all human activities and behavior are subject to the process of unfolding from simple, primitive conditions to the most complex. This conclusion means that productive activity and human behavior in the race and in the individual have followed a course of orderly evolution. Productive skill and ethical conduct are subject to the universal law of growth. This principle is one of the most significant in the history of modern education. Its implications are manifold.

Similarly, thought and knowledge develop from simple perceptions to complex mental processes. The same law of unfolding that governs in the biological and inanimate world is, therefore, found in our voluntary acts and in all our processes of thought. It is the same law because, back of all these processes, the force that forms the crystal, the living animal body, the act of will, the thought in the mind, is one and the same force; it is the energy of the creator spontaneously pushing outward and upward.

Human development is not an unimportant phase of life, a mere transition which unfortunately intervenes between birth and maturity; it is the very nature of the universe itself, the method of creation.

The law of development. The great quest of philosophy during the first half of the 19th century was to discover some unitary law or principle that would explain the organization of the entire universe. Speculative Idealists, like Fichte and Hegel, thought they found such a remarkable law in the dialectic process of thesis, antithesis, and synthesis. They believed that the physical and the mental worlds are both a process of thought. Having reduced everything to thought, it was easy to conclude that the dialectic process could be invoked to explain the evolution of everything in the universe. Later, Charles Darwin, limiting his investigations to the realm of biology, set forth the hypothesis that the evolution of living organisms is due to the struggle for existence and the survival of the fittest. Froebel also searched for a single principle that would explain the process of the creative activity of the universe. This creative activity is, as previously indicated, the same in the inorganic as in the organic world; it is also the same power that is known in human willing and thinking. According to Froebel, it is not pure thought or idea, as Hegel taught; nor physical force, as the materialists believed. It is a spiritual, creative energizing that shows itself alike in the force of the physical world and in the will power and thought of the mental world.

As Froebel conceived it, the law, according to which spiritual activity or creative energy evolves, is the law of opposites, or of unity. It is similar to the law of thesis, antithesis, and synthesis, except that the latter dialectic process is a process of logical ideas or meanings. Froebel's law is a dynamic principle. It is the law of activity, the law of action, reaction, and equilibrium. It is, therefore, broader in application than the process of thesis, antithesis, and synthesis, which is applicable only to thought. Froebel's law includes and explains this dialectic process of thought, but his law is universal in its scope. It explains the creation of all things in the physical and the spiritual worlds. Its greatest value is in explaining the course of development of human conduct, skill, and thought.

Race development. In the unfolding process of cosmic development, man is "the last and most perfect product of evolution." In him the body "appears in highest equilibrium and symmetry." As the original source of all creative energy is spiritual, man combines the mental, or psychological, with the physical. In him "the primordial force is fully spiritualized." In man the energizing force of nature inherent in the human organism has come to consciousness of itself. By this emergent self-consciousness "man feels, understands, and knows his own powers." Self-consciousness is the greatest step of progress in the cosmic process; for, by virtue thereof, man, knowing his own experiences, chooses his own ends, attains freedom, and has become capable of seeking perfection.

The attainment of self-consciousness and freedom carries two resulting implications of the highest importance. By a knowledge of his own nature and of the laws of his development, man can understand the right system of education by which to rear children. He is no longer blindly following instinct or impulse, but can act in a scientific or rational way in the treatment of the young.

The second implication is contained in the idea of the law of development: the race is still evolving to a higher order of being. As the botanist, by the selection of seed, can vary his plant production, so man, knowing the law of cosmic evolution, can develop the human race to a nobler state. Belief in unlimited progress for man was one of Froebel's most profound convictions.[5]

> Man, humanity in man, as an external manifestation, should, therefore, be looked upon not as perfectly developed, not as fixed and stationary, but as steadily and progressively growing, in a state of ever-living development, ever ascending from one stage of culture to another toward its aim, which partakes of the infinite and eternal. It is unspeakably pernicious to look upon the development of humanity as stationary and completed, and to see in its present phases simply repetitions and greater generalizations of itself.

Again, he declared: [6]

> Humanity which lives only in its continuous development and cultivation, seems to us dead and stationary, something to be modeled over again and again in accordance with its present type. We are ignorant of our nature and of the nature of humanity.

Mental and spiritual development. As has been stated, the same law of organic development which operates in the unfolding of the physical world operates in exactly the same manner in the inner life of man. In his mental and spiritual experiences, man comes to know this cosmic law or process in the most intimate way. His conduct or voluntary activities grow, develop, or unfold in precisely the same way as does the plant—from the simpler unity to finer and finer discriminations in action. This may be illustrated by the example of the child's reaction to people. At first, he reacts to all in the same way. Then, he begins to discriminate, and his responses grow more varied and complex as he notes differences in people. The same is true of his purposes. To begin with, he has only a vague general attitude toward life. Gradually his purposes evolve, and become more and more differentiated. Similarly, human thought evolves from simple unity through more and more minute discriminations of differences in objects and situations.

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[5] Froebel, Friedrich, *The Education of Man,* p. 17. Translated by W. N. Hailman. New York, Appleton, 1892. All references to *The Education of Man* refer to this translation.

[6] *Ibid.,* p. 146.

Some thinkers reduce the whole universe to a process of mental evolution. Froebel, following Krause, viewed it from a different angle. The process is primarily one by which activity becomes differentiated, and increasingly better adjusted to different objects and life situations. The law of development is the law of the evolution of spirit in its creative activities. It holds primarily for will, conduct, purpose, and life, and, consequently, for thought as an offshoot of these other processes.

Evil due to faulty education. Asserting that the child is inherently good, that the essence of his being is divine energizing, Froebel was obliged either to deny entirely the existence of evil in man, or in some way to account for its origin. If he could not successfully account for it, his system was liable to be accused of pantheism, which has frequently been charged against it; if he were a pantheist, his strong insistence that the goal of educational process is freedom would be rankly inconsistent. Before considering his view of the cause of depravity, however, it is advisable to understand his conception of virtues and vices.

The virtues which Froebel extolled are of different ranks of importance. Those of the lower order are courage, perseverance, resolution, prudence, and industry. They are related more closely to the physical life. The next group are the virtues of the heart, mind, and will: simplicity, gentleness, friendliness, justice, moderation, self-control, truthfulness, loyalty, brotherly love, and impartiality. These are social virtues and are developed chiefly by the games of boyhood. Of a still higher order are forbearance, consideration, compassion, and the encouragement of the weak. They are due to the feeling of common sympathy.

The chief evils are willfulness, deceit, falsehood, defiance, obstinacy, stubbornness, mental and physical indolence, sensuality, vanity and self-conceit, dogmatism and despotism, an unbrotherly and unfilial spirit, emptiness and superficiality, aversion to work and even to play, disobedience, ungodliness, carelessness, frivolity, and egotism. These human weaknesses are not due to any principle of original depravity as the theologians taught. Froebel believed that each vice is a virtue which has been perverted in its unfolding.[7]

> A suppressed or perverted good quality—a good tendency, only repressed, misunderstood, or misguided—lies originally at the bottom of every shortcoming in man. Hence the only and infallible remedy for counteracting any shortcoming and even wickedness is to find the originally good source, the originally good side of the human being that has been repressed, disturbed, or misled into the shortcoming, and then to foster, build up, and properly guide this good side.

All evils, therefore, are caused either by (1) the complete neglect of the development of certain sides of human life; or (2) "the distortion of originally good human powers and tendencies by arbitrary and willful interference with the original orderly and logical course of human development."[8]

The earliest germ of wickedness comes from the sense of neglect by the mother or nurse. Out of this feeling or experience of wrong springs "willfulness, the first and most hideous of all faults . . . a fault that soon becomes the mother of deceit, falsehood, defiance, obstinacy, and a host of subsequent sad and hideous faults."[9]

Neglecting the development of any power, or its distortion, disturbs the fundamental harmony of the child's being, and causes a divergence of his real self from his ideal self—that is to say, what he has actually grown to be is not consistent with what his essential nature requires him to be. All the evils of the human heart are due to faulty development, and the lack of development must be charged to some wrong method of education.

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[7] *Ibid.*, pp. 121–122.

[8] *Ibid.*, p. 119.

[9] *Ibid.*, p. 22.

The individual repeats the racial development. In his unfolding life, both on the physical and mental sides, the individual repeats the stages of development the race has passed through. This theory—known in the Herbartian system of education as the *culture-epoch theory,* and in biology as the *recapitulation theory*—follows logically from Froebel's comprehensive view of cosmic evolution. The rhythmic beginnings of language, the animistic attitude toward nature, the early religious experiences, the emergence of reason, the awakening of the moral sense—in fact, all the epochal developments of the race—are definitely repeated in the unfolding life of the individual. Thinking of this recapitulating process, Froebel explained: [10]

> Thus, in the mind of man, in the history of his mental development, in the growth of his consciousness, in the experience of every child from the time of his appearance on earth to the time when he consciously beholds himself in the Garden of Eden, in beautiful nature spread out before him, there is repeated the history of the creation and development of all things, as the holy books relate it. Similarly, in each child there is repeated at a later period the deed which marks the beginning of moral and human emancipation of the dawn of reason—essentially the same deed that marked, and inasmuch as the race was destined for freedom, must mark, the moral and human emancipation, the dawn of reason in the race as a whole. Every human being who is attentive to his own development may thus recognize and study in himself the history of the development of the race to the point it may have reached.

But while each individual must pass through all the preceding phases of human development, Froebel warned that "this should not be done in a way of dead imitation or mere copying, but in the way of living spontaneous activity." Thus the boy loves to play at cave life, not as imitating someone, but because such play expresses the inner craving of his nature. Moreover, the discovery that the individual and the race have traveled the same highway of experience leads to several valuable conclusions. First, one is enabled to see mankind as a whole; that is, to feel the unity of all humanity. Again, one is enabled to understand more sympathetically the unfolding life of his own children.

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[10] *Ibid.,* pp. 40–41.

Human development by stages. Like other advocates of genetic or organic development, Froebel held that human growth takes place by stages, which are well marked. He was, however, quite strongly averse to Rousseau's belief in the sudden emergence of new features. This so-called *saltatory theory* did not meet with his approval. Catastrophic changes and emotional storms were not characteristic of his experience. Moreover, such sudden changes would contradict his idea of a uniform law governing all unfolding. Froebel is impressed, rather, with the gradual movement, the continuity of development, and the sense of unity which embrace all stages of growth.

The particular stages which he accepted are: infancy, childhood, boyhood, youth, and maturity. He declined to assign definite age limits, for the stages are marked by certain central tendencies rather than by years. The central tendency or nascent feature of each stage controls all other developments, and defines the educational aim for the particular stage. The completion of each stage is essential to the proper development of the next. It cannot be claimed that any one stage is more important than any other. Each stage must be what that stage calls for, and should not be regarded merely as a preparation for the next. Each stage depends on the one preceding it, and consequently "in its place and time each stage is equally important." Froebel expressed the idea in this way: [11]

> The vigorous and complete development and cultivation of each successive stage depends on the vigorous, complete and characteristic development of each and all preceding stages of life. . . . The boy has not become a boy, nor has the youth become a youth, by reaching a certain age, but only by having lived through childhood, and further on,

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[11] *Ibid.*, pp. 28–29.

> through boyhood, true to the requirements of his mind, his feelings, and his body.

Man's creative nature. The most enlightening idea which Froebel has contributed to modern pedagogy is that the human being is essentially dynamic or productive, and not merely receptive. Man is a self-generating force and not a sponge which sops up knowledge from without. The core of his being partakes of the creative, spiritual energizing of the Absolute. He is an organism of spontaneous activities and must of necessity express his nature, not in capricious or arbitrary ways, but in accord with the fixed law of development. As a creature of nature, his activities are, first of all, unconscious and instinctive, and guided by the purposefulness of nature. As man emerges from nature, he becomes more and more fully aware of its ends, and accepts these ends for his conscious striving. He thus combines the unconscious and spontaneous with clear, conscious purposefulness. Man's genius and life work are realized by expressing all the inherited promptings of his being. By means of this self-expression he grows in the power of self-realization. Froebel's classic statement of this principle is as follows: [12]

> It is the destiny and life-work of all things to unfold their essence, hence their divine being, and, therefore, the Divine Unity itself—to reveal God in their external and transient being. It is the special destiny and life-work of man, as an intelligent and rational being to become fully, vividly, and clearly conscious of his essence, of the divine effluence in him, and, therefore, of God; to become fully, vividly, and clearly conscious of his destiny and life-work; and to accomplish this, to render it (his essence) active, to reveal it in his own life with self-determination and freedom.

Again: [13]

> *God creates and works productively in uninterrupted continuity.* Each thought of God is a work, a deed, a product, and each thought of God continues to work with creative power in endless productive activity to all eternity. . . . The Spirit of God hovered over Chaos, and moved it; and

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[12] *Ibid.,* p. 2.

[13] *Ibid.,* pp. 30–31.

> stones and plants, beasts and man took form and separate being and life. *God created man in his own image; therefore, man should create and bring forth like God.* His Spirit, the spirit of man, should hover over the shapeless, and move it that it may take shape and form, a distinct being and life of its own. This is the high meaning, the deep significance, and great purpose of work and industry, of productive and creative activity. We become truly godlike in diligence and industry, in working and doing, which are accompanied by the clear perception or even by the vaguest feeling that thereby we represent the inner in the outer; that we give body to spirit, and form to thought; that we render visible the invisible; that we impart an outward, finite, transient being to life in the spirit.

Man acts for self-expression. The very essence of his nature is spiritual energy, which is clearly seen in all purely human activities. Activity realizes inner purposes in terms of outer form and structure. Moreover, the results of such activity enrich man's fund of knowledge in a normal, functional manner and lead to self-consciousness.

It is highly noteworthy that Froebel did not derive solely from physical need, as so many thinkers do, the urge to activity. His theory of evolution is spiritual and not materialistic; it is ideal and not utilitarian. In this respect his whole philosophy is a direct challenge to the later pragmatic and utilitarian schools of thought. He lends no comfort to the economic interpretation of history. The chief elements of man's nature, as it has evolved, are not the result of his activities for the satisfaction of bodily needs. Froebel was emphatic in disavowing the principle of utility as the mainspring of human conduct: [14]

> The debasing illusion that man works, produces, creates in order to preserve his body, in order to secure food, clothing, shelter, may have to be endured, but should not be diffused and propagated. Primarily and in truth man works only that his spiritual, divine essence may assume outward form, and that thus he may be enabled to recognize his own spiritual divine nature and the innermost being of God. Whatever food, clothing, and shelter he obtains thereby comes to him as an insignificant surplus.

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[14] *Ibid.*, p. 32.

Thus, for Froebel, it is not the natural appetites which furnish the drive for action and, consequently, the basis of education. There is a transcendental urge, an imperative which lies deeper than the physical appetites; this deeper driving force is the spiritual character of man's being, his unity with God. Froebel accepted the economic principle of Jesus when He declared, "Seek ye first the Kingdom of God and His righteousness, and all these things shall be added unto you."

Is man's development predetermined? Froebel's theory of development by inner unfolding might readily be construed as a doctrine of strict determinism, especially in view of his constant insistence that man's development is analogous to that of lower organisms. No one, however, would more vehemently repudiate the analogy than Froebel himself, if one drew the conclusion that man unfolds as a mere mechanism. Nothing was farther from his belief. To him, indeed, freedom is the breath of man's life. He is not a machine determined, from within, by fixed necessity, nor yet, from without, by sensory stimuli. Man, as an organism, has emerged out of nature and has attained consciousness of his own inner being. He knows and evaluates ends, purposes, and results; he chooses the ultimate type of selfhood which he would express and realize for himself. Man is predetermined from without in so far as his environment may not furnish the necessary conditions in which a particular activity can normally function. But he is self-determined because he can choose his final goal and, in a large measure, create the environment, especially the social and spiritual environment, necessary for its attainment. The one thing which differentiates man from the lower orders of being and which makes him free is self-consciousness. This is the fulcrum by which man is raised to the higher level of existence. To make the child conscious of himself is, therefore, one of the great ends of education.

The educational process: the directing of self-activity. All genuine development comes from inner unfolding, and is brought about by means of spontaneous activity. Froebel's whole educational system was a protest against the idea that learning or culture could be imposed on the child from without. He declared that all those figures of speech which regard education as coming from the outside misrepresent the educational process.[15]

> God neither ingrafts nor inoculates. He develops the most trivial and imperfect things in continuously ascending series, and in accordance with eternal self-grounded and self-developing laws.

Froebel thus completely reversed the traditional idea of the educational process. He endeavored to draw out of the child, by means of self-prompted activity, every potentiality of its nature. On this point he was very positive: [16]

> The purpose of teaching and instruction is to bring ever more *out* of man rather than to put more and more *into* man.

The child is replete with all the inborn potentialities of the race. His inner being is seething with desire, and yearning to express the spiritual life and energy of his nature.[17]

> All the child is ever to be and become, lies in the child, and can be attained only through development from within outward.

Froebel was strongly insistent that the child shall not be introduced to any new subject until he is ripe for it, until he feels an inner need for it. This ripeness is a condition of his active nature, and not of curiosity or mere intelligence. He is ripe only when from inner progress he finds he wishes to act in relation to the particular situations. He should not learn to draw or read or write except from "a certain felt need" for the activity. Whatever is learned as a result of a need for action, or through action, has a genuine significance for life. But what is learned from someone else is of little value, and may even injure the child's mind. On this point Froebel declared: [18]

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[15] Hughes, James L., *Froebel's Educational Laws for All Teachers,* p. 13. New York, Appleton, 1898.

[16] Froebel, F., *The Education of Man,* p. 279.

[17] *Ibid.,* p. 68.

[18] *Ibid.,* pp. 278–279.

> Experience and history, too, teach that men truly and effectively promote human welfare much more by what they put forth from themselves than by what they may have acquired. . . . To learn a thing in life and through doing is much more developing, cultivating, and strengthening, than to learn it merely through the verbal communication of ideas.

The perfect life "would have each human being develop from within, self-active and free, in accordance with the eternal law."[19] Human nature in the child is inherently wholesome and good; it can be trusted to unfold rightly. As the inner essence of life is the divine creative nature expressing itself in the child, free self-activity and self-determination are required by the cosmic law of development. All the processes of growth and development must be afforded free expression.[20]

> Young animals and plants are given rest, and all arbitrary interference with their growth is avoided, because it is known that the opposite practice would disturb their pure unfolding and sound development.

In harmony with this principle, Froebel stated his theory of education:[21]

> Therefore, education in instruction and training, originally and in its first principles, should necessarily be *passive, following* (only guarding and protecting), *not prescriptive, categorical, interfering.*

This principle of non-interference, or of "negative education," as Rousseau termed it, is characteristic of that group of thinkers who view education as a process of unfolding the inner powers of the organism. This point of view is more pertinent to infancy and early childhood than to youth. It is commonly recognized that it is often wisest to let nature alone in the earliest stages. To interfere with its processes may be dangerous. But to claim that the same principle of non-interference must obtain throughout all the stages of development is untenable, because the educational process changes its character. In the later stages of the child's development the unfolding is no longer organic and simple, but depends upon self-conscious choice and ideal purpose. Froebel recognized this fact when he declared that "all prescription should be adapted to the pupil's nature and needs, and secure his coöperation." In the later stages of development, as well as in the earlier, there must be harmony between the inner and outer factors. This harmony is brought about by the interaction of teacher and pupil within the sphere of the ideal and in obedience to its commands.[22]

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[19] *Ibid.*, p. 13.
[20] *Ibid.*, p. 8.
[21] *Ibid.*, p. 7.

> All true education in training and instruction should, therefore, at every moment, in every demand and regulation, be simultaneously double-sided—giving and taking, uniting and dividing, prescribing and following; . . . and the pupil should be similarly conditioned: but between the two, between educator and pupil, between request and obedience, there should invisibly rule a third something, to which educator and pupil are equally subject. This third something is the *right*, the *best*, necessarily conditioned and expressed without arbitrariness in the circumstances.

Froebel was not interested in transmitting knowledge that has no direct meaning for life. But by developing his activities when young, the youth is prepared to gather knowledge more readily when he is older; and in this preparation the teacher plays a vital role.

Relation of sense perception to action. Is action the result of the mental process sensation-perception, or is perception a function of action? Modern psychology takes the first view; Froebel took the second. He recognized two correlative processes: in the one case, the outer becomes, or causes, the inner; and in the other, the inner becomes, or causes, the outer. The soul is not an empty something with only the power of inner reaction, as Herbart believed. It is innately replete, but not with forgotten ideas, as Plato, Descartes, and other idealists thought. Nor is it a *tabula rasa* on which impressions are traced, as Locke believed. It is replete with all the active tendencies of human nature, with all the desires, potentialities, urges, and drives of life deposited from the past. The senses have evolved in order to enable this inner activity to find appropriate expression, and to enable it to interpret the phenomena of outer reality for the sake of further, more discriminating action. For this reason, sense perception and physical activity develop together. However, one must never forget that the unfolding of the active essence, or life, is caused not by sensory stimulation but by inner urge or necessity. The discrimination of the qualities of objects is not brought about by objects impressing themselves in a new manner upon the sense organs; it is due, rather, to the evolving constructive activities of the child's nature. Froebel was, therefore, in direct antagonism to behavioristic psychology. For him, the inner activity is primary, and perception is a function evolved in relation to and for the sake of the spiritual, creative nature. The inner projects itself outward by means of activity, and, as a result, the outer experience reacts to modify further activity.

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[22] *Ibid.*, p. 14.

3. Froebel's Theory of Education

Educational objectives. In man the cosmic process of divine unfolding becomes conscious of itself and, by virtue of this self-knowledge, it is lifted into freedom. It becomes aware of the law of its own development and of the aims or ends which are most suitable for its realization. The objectives which Froebel set for education are unique, but they are in harmony with his fundamental principle of self-realization through self-activity. Perfect living and culture, all-sidedness, and harmony within and in all life's relations are to be sought; likewise, a knowledge of self, of nature, of God, and of the inner law which relates them all is essential. These objectives are set forth in Froebel's own peculiar language in various of his writings. One such passage may be quoted: [23]

> The object of education is the realization of a faithful, pure, inviolable, and hence holy life. . . . The divine essence of man should be unfolded, brought out, lifted into consciousness, and man himself raised into free, conscious obedience to the divine principle that lives in him, and to a free representation of this principle in his life. . . . Education

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[23] *Ibid.*, pp. 4–5.

> should lead and guide man to clearness concerning himself and in himself, to peace with nature, and to unity with God.

From this it can be seen why Froebel insisted upon knowledge of oneself, of nature, and of the law of inner development. The child must be brought to recognize that this law is of divine origin; he must be brought into harmony within himself and with nature, and must become submissive to the divine will. Froebel summed it up in these terms: [24]

> The representation of the infinite in the finite, of the eternal in the temporal, of the celestial in the terrestrial, of the divine in and through man, in the life of man by the *nursing* of his originally divine nature, confronts us unmistakably on every side as the only object, the only aim of all education, in all instruction and training.

Another aspect of Froebel's comprehensive objective remains to be discussed: the development of will, which forms the function of instruction in the school.[25]

> To give firmness to the will, to quicken it, and to make it pure, strong, and enduring, in a life of pure humanity is the chief concern, the main object in the guidance of the boy, in instruction and the school.

In insisting that the effects of education upon the will are more important than the effects upon the intellect, Froebel has given modern pedagogy a new point of view. It may be suggested, however, that, in the end, he has merely stated in his peculiar terms the common belief that the supreme objective of education is the building of character or personality. Herbart and Froebel had precisely the same ultimate aim for the process of education. But, in the method of reaching that end, they differed as widely as the poles.

Philosophy of the curriculum. The basis of the curriculum is found in the unfolding of the activities of child nature. These activities are the necessary expressions of his normal life as an organism. An act of learning is not a complete activity, for learning is not a separate form of conduct in which the child engages. The child learns by doing and through doing. Learning is the result of his active, expressional life. For Rousseau, the importance of an object rests in its usefulness; for Pestalozzi, in its value in the training of the sense organs; for Herbart, in its contribution to knowledge. But for Froebel, an object is important for what the child can make from it through self-expression. The real purpose of instruction is not to acquire knowledge, but, by means of activities, to build up habits, skills, and power of will and character. Learning which does not come as a result of constructive or productive activity violates the unity of the organism, and remains in experience as a deadening external thing. Activities which are truly educative spring from the effort, or inner need, to realize some purpose or ideal. That purpose may not be necessarily clear to the consciousness of the child, but it is nevertheless the propulsive power which causes him to act.

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[24] *Ibid.*, p. 16.

[25] *Ibid.*, p. 96.

The unfolding of activities. The activities in which the normal child engages are not caused, from without, by outer stimulation or because of an instinct to imitate. Froebel possessed the strongest aversion to externalism in every form. Moreover, the various activities are not independent of each other; they form a unity and unfold, from the child's basic nature, in the same manner in which the leaves and branches of a tree unfold from the earliest shoot. Activities follow a genetic order of budding and developing, and bear a functional relationship to the inner life of the child. They spring from the original unity of the infant organism. They diversify into a variety of activities which, in turn, integrate into a higher and more significant unity.

Faithful to his basic, organic view, Froebel believed that every new interest buds from some activity already functioning. In a very true sense the child is an organism or body of activities. These activities grow and burgeon from the central life as the limbs, branches, and twigs of a tree. The burgeoning of any new activity or interest is of the greatest moment, for it signifies the beginning of a new subject. In other words, one subject or interest leads by a natural emergence into another. For this reason it is absolutely essential that the educator know at what time in the pupil's experience the new should burgeon from the old. Froebel explained his conception in this manner: [26]

> For the purpose of a living, life-giving, and life-stirring instruction, it is most important to note the moment, the proper place, for the introduction of a new branch of instruction. The distinctive character of a natural and rational . . . system of instruction lies in the finding and fixing of this point. . . . Therefore, the whole attention of the teacher must be directed to these budding-points of new branches of instruction.

What Locke meant by times of special readiness when the mind is "in tune"; what Herbart meant by "preparation"; Froebel meant by "budding-points" of new subjects. For Locke and Herbart, it was a new mental interest; for Froebel, it was the evolution of a new form of activity.

Furthermore, it would be a grave misinterpretation to think of the child at any stage as an individual organism struggling to survive and develop. For Froebel, all the activities of the child—even the most common physical ones—are directly related to the spiritual and social life which surround him. As he is an organism in and of himself, so also he is a part of larger organisms, the family and humanity as a whole. From the beginning of life, he acts in a social medium and all his conduct has immediate relation to other human beings. In consequence, the development of his social feelings and instincts must go hand in hand with the development of his productive power. Expression of inner aims and needs must always be integrated with a sense of social unity and communal purpose. Froebel's social pedagogy will be treated in more detail later.

Religion. The most fundamental striving of any organism is to preserve its own integrity—that is, its inner unity and life. Inasmuch as the child must develop in harmony with the law of his own structure and in harmony with his environment, it follows that he must act in obedience with God and nature; for the law of human development is the divine law of cosmic evolution, and the essence of man is the divine energy. The new-born infant is asleep in God, and in perfect unison with Him. The child's first and deepest feeling and interest, an interest which abides throughout all life, must be the preservation of this unity; for "religion is a living in the soul that finds and feels the One in All." The child must come to understand it as part of his own nature. This interest, which is religion, forms the first subject in every course of study, at every level of education.[27]

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[26] *Ibid.*, p. 255.

> Religious instruction quickens, confirms, explains the feeling that man's own spiritual self, his soul, his mind and spirit, have their being and origin in God and proceed from God; it shows that the qualities and the nature of the soul, of the mind and spirit, have their being in and through God; it gives an insight into the relation of God to man, as it is clearly manifested in the mind and life of every one, in life as such, and particularly in the life and development of mankind, as they are preserved and revealed in the sacred books.

Religion, for Froebel, is a vital personal relationship. It is most perfect when the thoughts, feelings, and purposes of a man are in accord with God's being and will. The relation of the obedient normal child to his father is the best preparation of the child for understanding his relation of sonship to the divine Father. For Froebel, therefore, normal home life is the best means for the development of the religious nature. It may well be doubted whether any other educator has been more profoundly religious and uncompromisingly Christian than he. For him, religion is the leaven which vitalizes every aspect of the educational process. The charge of mysticism often brought against Froebel's views is relatively unimportant, for he was scarcely more mystical than most of the great Christian theologians.

Period of infancy. Infancy is the period of dependence and of the "fostering care" of the parents. Spiritually and emotionally the child is still one with his parents, just as the living shoot, emerging from the branch, is in unity with the branch. The growth of the infant recapitulates more clearly than later stages the history of the race. The earliest developments are those of the senses and of motor activities. Both of these unfold in organic relation to each other. The two senses, hearing and vision, have most to do with the development of knowledge and the higher spiritual nature. Hearing comes first, and is more important because of its necessary connection with language; for without language there can be no development of the higher, spiritual nature.

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[27] *Ibid.*, p. 140.

Period of childhood. In general this period begins at three years of age and ends at about six or seven. Up to this stage the activities of the organism are still an undifferentiated unity. The particular mark of the onset of childhood is a change in the character of the child's activities.[28]

> As soon as the activity of the senses, of the body and the limbs is developed to such a degree that the child begins self-activity to represent the internal outwardly, the stage of infancy in human development ceases and the stage of *childhood* begins.

Froebel designated this period as the time when real education must begin; this is the stage which he elaborated to the fullest extent in his theory and practice, the pre-school or kindergarten stage of training. The idea of a method of training which could be put into the hands of mothers had been an interest close to the heart of Pestalozzi. It does not appear to have captured the fuller interest of Froebel, until some years after his association with the sage of Yverdun. But he gradually came to feel that the one glaring weakness of all education lay in the wrong foundation which is laid in the earliest training of childhood. For this reason, in 1836, he turned away from the training of teachers in which he was engaged, to establish a new institution, which he named the *kindergarten.* The name is itself characteristic of Froebel's mental viewpoint. He looked upon children as young plants raised in a garden under the cultivation of the teacher. The idea is expressive of the doctrine of organic education which Froebel shared with Pestalozzi and Rousseau, but of which he was himself the greatest exponent. The most fundamental instincts of the child's nature awaken during this period and must be unfolded according to definite principles and in a definite order. The two most important forms of expression in this stage of development are language and play.

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[28] *Ibid.,* p. 49.

Language the earliest form of expression. Language is the earliest means which the human being uses to express his inner feelings and images. It is the original differentiating element in human activity. Language does not unfold independently, but accompanies all the other educative activities in which the child engages. The naming of objects accompanies his growing contact with nature, and all his relations with other beings. Childhood "is preëminently the period of development of the faculty of speech." Language causes that awakening of the mind which lifts man above the animal world.

Language and nature study are to be tied together by the memorizing of short poetical representations of nature and life. These consist of short poems about objects and the incidents of home life.

Play as self-expression. Froebel was the first educator to discern the true function of play in child development. Of this he said:[29]

> Play is the highest phase of child development—of human development at this period; for *it is self-active representation of the inner—representation of the inner from inner necessity and impulse.* Play is the purest, most spiritual activity of man at this stage. . . . It gives joy, freedom, contentment, inner and outer rest, peace with the world. A child that plays thoroughly, with self-active determination, persevering until physical fatigue forbids, will surely be a thorough, determined man, capable of self-sacrifice for the promotion of the welfare of himself and others. . . . To the calm, keen vision of the one who truly knows human nature, the spontaneous play of the child discloses the future inner life of the man. The plays of childhood are the germinal leaves of all later life.

Froebel's preëminence rests not only on the recognition of the theoretical value of play, but on the practical applications of his ideas. He selected many types of play and showed how they were to be used.

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[29] *Ibid.*, pp. 54–55.

Drawing. Another deeply significant activity of this stage is drawing. In truth, Froebel believed, it is as essential to child life as is language. Of this he said: [30]

> The faculty of drawing is, therefore, as much innate in the child, in man, as is the faculty of speech, and demands its development and cultivation as imperatively as the latter.

Drawing is, in fact, a language or form of representation which stands between the spoken word and the perception of the thing. "What man tries to represent or do he begins to understand." Drawing is a means of increasing knowledge and of exercising judgment and reflection. It is an important step in the growth of the ability to think abstractly. In another direction drawing also leads from the coloring of outline pictures to the study of colors and of painting.

Rhythm. Movement leads to the sense of rhythm. No educator has imputed higher cultural value to rhythm than did Froebel. As Miss Susan Blow expressed it: "The infant, a rhythmic soul in a rhythmic body, is born in a rhythmic universe." Rhythm is the basis of language and music. But, as Froebel clearly saw, the most important moral qualities, such as firmness, moderation, and self-control, are likewise based upon it. Rhythm is essential to all appreciation of art. The ripening activities of the child lead over naturally from rhythmic movement to song.

Ripening activities. The first effort of the mother in obedience to her own instinctive prompting is to direct the child's attention to the members of his own body: arm, hand, finger, tongue, and so on. This is the earliest step in the process of learning about himself on the way to self-consciousness. From the members of his body she will lead him to understand the movements of the various parts of the body. Then follows an interest in the objects about him and how they act.

According to Froebel, as already observed, each new activity, whether of the mind or body, is developed from some earlier activity. For illustration, drawing sharpens and makes more discriminating the child's power to perceive objects. In its turn, clear perception of objects leads over to the knowledge of number. The number sense is the beginning of a knowledge of mathematics, on which Froebel placed great emphasis. Thus, in his philosophy all activities and capabilities form an organic growth, in that the activities unfold from one another as a natural genetic process.

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[30] *Ibid.,* p. 79.

Growth by means of constructive activity. In his later years Froebel worked out the series of blocks and other apparatus, which he termed "gifts" and "occupations," for the use of kindergarten children in their creative activities. These were graded carefully so as to form an ascending series from the simple to the most complex. In addition to building blocks, he used paper, cardboard, sand, clay, sawdust, and other materials for making objects of interest. The use of these materials in productive activity followed his fundamental law, by which all evolution takes place. His real purpose was to find a series of constructions that would parallel the unfolding of the child's creative impulses. They would harmonize the logical and psychological order of development. Constructive activities form the most perfect means for the development of the inner capacities. They call into function all the physical, mental, social, and spiritual aspects of the child's being.

Froebel recognized as important the collecting instinct and the "instinct of research" found in the tendency of children to break and take apart everything on which they can lay their hands.

In all his activities at this stage the child has no ulterior motive. He plays for the sake of the activity as such, and not for any result which may come to him. His activity is, therefore, not consciously purposeful. He is wholly oblivious of the purpose which nature has in prompting his activities.

Gifts and occupations. Froebel was the first educator to invent systematic apparatus for the expression of the child's activities. The first series he called "gifts," because, as he suggested, they were divinely given to meet the needs of the young.

The first gift is the ball, the most universal plaything of children. It is also the symbol of the unity of the universe, the representative of all things. The second gift consists of the ball, the cube, and the cylinder, which symbolize thesis, antithesis, and synthesis. The third, as well as all succeeding gifts, is formed by dividing the cube in various ways. These divisions form building blocks for the child's constructive activities.

Children were not permitted to use these toys as they pleased. The constructive activities of the kindergarten were meticulously formulated and, consequently, robbed the activities of all semblance of spontaneity.

The occupations were by no means so formalized. Among them were clay modeling, paper cutting, coloring of pictures, sand-pile play, drawing, cardboard work, sewing, weaving, and many other forms of simple hand work.

Period of boyhood. This is the period from six or seven to nine or ten years of age, and Froebel designated it the "period of learning," in which "instruction predominates." This is the time when the fundamental human emotions and interests should be developed as a preparation for purposeful conduct—the development of what Froebel termed "firmness of will," but what is now meant by "steadiness of character." The training received in the preceding period of childhood is the foundation for an all-sided development of the activities of the boy at this stage. The earlier period is marked by spontaneous development from within. To this end, the unfolding activities of child nature need an environment which offers freedom of expression. But in this new period the outer environment plays a larger role. Self-expression now, more than ever, takes the form of constructive or productive activities which are purposeful. The purposes are those which family and society find necessary for life.[31]

> What formerly the child did only *for the sake of the activity,* the boy now does *for the sake of the result* or product of his activity; the child's instinct of activity has in the boy become a *formative instinct.*

Constructive activities. The constructive activities in which the child is now to engage are of many varieties. The sharing of the work of the home has the greatest value in producing physical vigor, developing purposefulness, and promoting a sense of communal unity. The boy should engage in constructive work for an hour or two daily. Building with blocks, sand, sawdust, and materials of all sorts is also to engage his attention. Each boy is to cultivate a garden of his own. The projects in which the individual engages will soon branch out into more pretentious undertakings, in which two or more boys will coöperate. In such activities Froebel saw the ripening of the sense of community purpose, which is of the highest importance for social life.

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[31] *Ibid.,* p. 99.

Plays. The games of boyhood have a richer significance than those of the period of childhood. They show more purpose and indicate, consequently, more intelligence. However, the most valuable results of games at this period are the moral qualities which games foster.[32]

> Justice, moderation, self-control, truthfulness, loyalty, brotherly love, and, again, strict impartiality—who, when he approaches a group of boys engaged in such games, could fail to catch the fragrance of these delicious blossomings of the heart and mind, and of a firm will; not to mention the beautiful, though perhaps less fragrant, blossoms of courage, perseverance, resolution, prudence, together with the severe elimination of indolent indulgence?

Froebel's enthusiasm for play made him the prophet of our own day and time. Only in recent years have a few cities and towns begun to measure up to his ideals of the organization of play. He stated his ideal in this way: [33]

> Every town should have its own common playground for the boys. Glorious results would come from this for the entire community. For at this period games are common, and thus develop the feeling and desire for community, and the laws and requirements of community.

The story interest. Stories, myths, legends, fairy tales, and fables receive a higher educational rating in the Froebelian pedagogy than they do in any other system. He recognized the significance in the heart of the boy of "the desire and craving for tales, for legends, for all kinds of stories. This craving especially in its first appearance is very intense." The meaning of the desire for stories is far reaching and complex. It is an awakening of the individual's interest in the past, the beginning of a sense of time, of history and development. But of still greater value are its effects upon the mind, the imagination, and the growing consciousness of self. Stories are the play activities of the mind; they develop the powers of mind, as physical play gives strength and power to the body. Froebel described the results of the story interest rather naïvely, as follows: [34]

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[32] *Ibid.,* p. 113.

[33] *Ibid.,* p. 114.

> Mind breathes mind; power feels power and absorbs it, as it were. The telling of stories refreshes the mind as a bath refreshes the body; it gives exercise to the intellect and its powers; it tests the judgment and the feelings.

Study of nature. According to Froebel, the study of nature forms one of the deepest of boyhood interests. He was himself as passionately fond of nature as was Rousseau, but more intelligently so. The normal boy spends most of his time in contact with the outer world and finds an increasing interest in its varied phenomena. Excursions into the mountains and valleys are exhilarating to his spirit as well as to his body; hence these formed a regular feature of the weekly program of Froebel's school at Keilhau.

An intuition tells the boy, even at an early age, that the various objects of nature have a hidden meaning. This feeling of the inner significance and unity in all things produces a natural longing to understand the secrets of the objective world. "Nature is the work of God," and "a revelation of God." It represents His spirit and purpose, and acts according to the law of His unfolding will. The boy should come to understand that "all the objects of nature are organically united members of one great living organism." Of even greater importance is the fact that man himself is a product of nature, and that the law of the evolution of nature is also the law of the unfolding of man in his physical, mental, and spiritual being.

The study of nature is valuable, first of all, for the light it sheds on man; in this way it assists the growing boy to understand himself and other human beings. A knowledge of nature leads to self-consciousness. The observation of nature leads, moreover, to interest in natural history, physics, and chemistry. Among all the sciences, the chief instrument to reveal the inner law of nature is the science of mathematics. "The mind and mathematics are as inseparable as the soul and religion." Froebel's view fully agrees with the modern philosopher who asserts that "God is a mathematician." Arithmetic and geometry are not abstractions remote from real experience, for mathematics "is the expression of life as such." Froebel was deeply impressed by the correspondence of the mathematical construction of the universe and the mathematical working of the human mind. He regarded this parallelism as an evidence that man and nature are both the result of the same law of evolution.

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[34] *Ibid.*, p. 307.

The memorizing of poetic descriptions of nature leads over, on the one hand, to song and, on the other, to language proficiency. Thus there is omitted from the curriculum of the boy nothing that might have some meaning for his active nature. He studies each subject because his nature demands it, and not because his teachers are interested in it. He sings, not to become a musician; paints, not to become an artist; makes a garden, not to become a horticulturalist, but because his active spirit is exploring the possibilities of human experience and learns best by doing.

The family. Pestalozzi looked upon the family as the most ideal educational institution, and he endeavored to have the school conform in spirit and organization to the life of the family. Froebel likely derived much of his enthusiasm for family life from Pestalozzi; however, he went far beyond the latter's ideas of the functions of the family. For him, "the family is the center of all human endeavor." Biologically, industrially, religiously, educationally, as well as socially, it is the chief human institution.

In order to grasp his exalted estimate of the far-reaching significance of the family, it is well to recall that Froebel spent most of his life in the small communities of the mountain regions of Thuringia. There, life retained its medieval simplicity and integrity, and the family was still the center of industrial and social activity. Most articles that were used were made by the members of the family, for Froebel lived at the dawn of the Industrial Revolution. The complete separation of industrial production from the family was still unknown. Yet, while much of Froebel's view of the activities of the family would need some modification to fit present conditions, his fundamental conceptions of the biological and social functions of the family would not be altered.

The family is a living organism in which father, mother, and child "constitute a complete, unbroken unity." All the activities of life grow out of the needs of the family, and return again to center in the family. Like the biological process by which the tree produces the seed which, in turn, produces another tree—and so on indefinitely—so the circle of family life insures the continuous progress of humankind.[35]

> Only the quiet, secluded sanctuary of the family can give back to us the welfare of mankind. . . . With the foundation of every new family there is issued to mankind and to each individual human being the call to represent humanity in pure development, to represent man in his ideal purity.

Because the family is the focus of all human activity and the source of the humanizing process, the cultivation of childhood is man's supreme task. In the performance of this task, man becomes conscious of himself, of the course of his inner development, and of the law of cosmic evolution. Devotion to the task of human cultivation brings to man the most lasting and deepest satisfaction.

Out of this conception of child culture as the supreme biological and humanizing activity of man, Froebel gave expression to his significant admonition: *"Come let us live with our children."*

Nature has ordered that the mother shall be the chief educator of the young child. The blind instincts which nature provided to guide her efforts in developing the infant must now be lifted into the light of consciousness, and must become a rational method of procedure. The father is the educator in the period of boyhood when the child enters into the stage of constructive activities. In the school the master directs instruction, but the school does not supersede the home. At best, it merely supplements the work of the home, which always remains the central institution for human cultivation.

Family life furnishes a favorable medium in which the activities of the child begin to germinate and unfold. These activities are not mere imitative reactions, copied mechanically from others; they are acts of self-expression and spring spontaneously from the inner nature of the child. Gradually he becomes aware of the yearnings and desires which prompt his actions; as a result, he chooses the purposes upon which he wishes to act, and thus develops a firm will. In this process the child becomes more fully conscious of his own inner life and experiences, and more aware of the ideal perfection to which he must aspire.

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[35] *Ibid.*, p. 232.

The integration of his inner powers makes the child conscious of himself and gives him a desire for unity with other people. The family is well fitted to meet this need of personal relationship. It "alone secures the development and cultivation of a good heart and of a thoughtful, gentle disposition in their full intensity and vigor." Goodwill leads the child to view everything in terms of family life and to refer everything to the family circle. It is this sense of unity with the family which gives the child his earliest sense of communal feeling and communal purpose. These sentiments and attitudes are basic for all the later developments of social living.[36]

> The aim and object of the parental care of the child, in the domestic and family circle, then, is to awaken and develop, to quicken all the powers and natural gifts of the child, to enable all the members and organs of man to fulfill the requirements of the child's powers and gifts.

The common activities of the home coördinate with the unfolding interests of child nature. The needs of the home arouse the all-sided activities of life. Nothing is done there as a deadening exercise, without genuine significance or purpose. Moreover, every one of the activities essential for the conduct of complete life is present in the home. In this environment of significant activities, the child develops all his powers in a normal way; having learned to participate in the living purposes of the home, he is fitted to engage in the communal purposes of all other institutions—school, church, state, industry, and society. It is not that these purposes are different from the functions of the home; they are merely extensions of these functions.

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[36] *Ibid.*, p. 64.

Furthermore, the home has a special significance for the cultivation of religious life. Pestalozzi traced the germination of religious feeling to the sense of dependence which the infant feels toward his mother. Froebel believed that religion begins in the sense of relation of father and son. Religion is the craving for unity, for harmony of purpose, and this spirit is awakened first of all in the home environment.

Social education. Froebel was the first educator to perceive the deeper significance of social relations for education. The growth of individualism which began in the Renaissance and the Reformation, reached its climax during the clamorous period of the 18th century. Economic and political individualism came into mortal conflict with feudalistic organization, which held in its tenacious grip the commercial and political life of the day. The revolutions in western Europe and America brought about the emancipation of the individual. The note of educational isolation, sounded by Rousseau in his attack upon the evils of civilization, had captured educational theory, but its one-sidedness was soon apparent. Froebel lifted the problem of the individual and society out of any contemporary setting, and treated it in a purely philosophic way. To him, the individual and society are not at all absolute contraries; in the interest of life they must be harmonized in a rightly educated personality.

Froebel's conception of social education was a corollary of his central doctrine of unity. He viewed everything as a "part-whole" *(Gliedganzes)*. Man is an individual in so far as he is a self-conscious being with his own feelings, thoughts, and volitions issuing from within. But he also enters into living relations with other people in all he does and thinks. Such relations with other individuals impart genuine significance to his existence. The child can emerge from the animal state and grow into a human being only as he enters into relations with others and acquires the ability to coöperate in communal purposes. Each group of which he becomes a part is an organism in itself and, in turn, a member of a larger organism.

Froebel had a large circle painted on the floor of the kindergarten room to aid in unifying the group. The first exercise of the day required the teachers and all the children to toe this circle and to engage in song, prayer, and play together. In this way unity of feeling and unity of purpose were infused into the group and dominated the activities of every individual. Social education was no mere theoretical idea; it was the training of the child to engage with others in group activity for common ends. Froebel was not the first to organize the school as a little "republic" or "state," but he did appreciate more deeply than others what the purposes of group organization ought to be.

THE MORNING CIRCLE IN THE KINDERGARTEN.

Not only in the school do social relations develop the child. Froebel believed that all human activity and thought are the direct result of human relations. A child raised apart from all human contacts cannot possibly become human. The relations to the mother and father cause the germination, in the infant, of the sense of dependence, of language, of affection and other social virtues. At the later stages in the life of the child, it is the sharing in the various activities of the home, the church, the playground, and the town that develops, to a still higher degree, community of purpose, religious spirit, and industrial and civic efficiency.

Froebel relied upon education to construct the social order. He believed that humanity is still in the process of evolving to higher stages. It is the task of the schools so to guide the activities of childhood that children will become adaptable to new forms of social living.

Symbolism. From early childhood Froebel showed a tendency toward symbolism, and this characterisic increased markedly in the latter part of his career. Words, flowers, casual events—everything, in fact, was looked upon as possessing an inner significance. Many of his plays, games, and kindergarten apparatus were invented to symbolize some law or institution. No other educator has attributed so significant a role to symbols.

He created his gifts in order to convey to the mind of the child the idea of the law of development. The circle, painted on the floor of the kindergarten, represented the inner unity of the kindergarten group. Any three similar objects of slightly different sizes might be used to symbolize the family relationships, father, mother, and child. Likewise, by means of symbolic representation, the church, industry, the state, and other institutions were brought vividly home to the child's consciousness.

Froebel believed that child nature has a peculiar affinity for symbolic representation. He had repeatedly observed that young children in their spontaneous plays always use one object to represent another. A stick must do service for a horse; a few blocks, for a train of cars.

Because of this emphasis upon symbolism, the most severe criticism has been directed against his ideas and practices. Just why critics should summarily dismiss such symbolic representation is difficult to understand. There can be no question whatever that Froebel correctly observed in the spontaneous activities of children a natural penchant for symbols. For this reason he considered symbolism a necessary function of the growing understanding, and felt that it betokens an active and creative mind. It is essential, not only to the activities of young children, but also to the subsequent fixing and ripening of their ideas.

Froebel believed that symbolization is a form of language. As the child has a natural affinity for words, which are auditory and written symbols, so he has a spontaneous urge to create other symbols.

Furthermore, it must be pointed out that, as a matter of fact, man has become what he is mainly through the use of symbols. Without them no progress above the brute would have been possible. The flag, the cross, the uniform, the wedding ring, and even words, are all merely symbols. No one objects to their use. The entire science of mathematics has been made possible by means of symbols. Just why Froebel should be so severely condemned for utilizing this means of representation in the development of the child is difficult to understand. There can be no doubt that sometimes Froebel overemphasized the use of symbolism and, in some respects, made it quite ridiculous. But these excesses should not blind educators to his great service in pointing out its essential contribution to the development of the intelligence of the child.

Other criticisms of Froebel's theory and practice. Froebelianism, in both theory and practice, has been the object of most violent criticism. Even in his own day, Froebel's system was scorned by the great majority of educational leaders. Before his death Prussia, the leading state in Germany, placed a ban upon the establishment of kindergartens. Prussian authorities objected to the socialistic and liberalizing tendencies of Froebelian training.

Among the chief criticisms raised by educators are the following:

(1) Froebel's emphasis upon play as a regular part of school work has not been favored by many educators. The statement has commonly been made that it results in detracting from serious learning.

(2) Froebel's principles underrate the importance of true knowledge. His insistence upon play, constructive work, and many other subjects, and his frequent denunciation of dead, external knowledge, have led to a disrespect for learning, as such.

(3) In the field of philosophy he has usually been discredited as a mystic and pantheist. He frequently and forcefully defended his position as neither pantheistic nor mystical.

but the lack of a clear-cut, simple statement of his position has left his critics more or less victorious.

(4) His devotion to drawing and cubic building blocks has caused some to object to his kindergarten methods as overemphasizing form and mathematical knowledge.

(5) Froebel's law of evolution does not impart any illumination regarding the unfolding of nature or life, but is merely a meaningless form. It does not tell definitely how to proceed in the development of child life.

It is not necessary to make an evaluation of any of these criticisms. Each has, in a greater or lesser degree, discredited and weakened the influence of his ideas. Even the kindergarten principles and practices which formed the most systematic application of his philosophy have undergone radical changes during the last thirty years. But while all this is true, no educational theory has been more followed in actual practice than that of Froebel. His doctrines or educational principles have been accepted as basic for all education, from infant training through the graduate school. Stripped of many of its eccentricities, Froebelianism fits remarkably well into modern genetic psychology, sociology, and industrial progress. Among its permanent contributions are the following doctrines:

(1) Education must follow the natural course of the evolution of the child's activities.

(2) Development depends on inner self-activity.

(3) Play is an essential means of early education.

(4) Constructive activity is the chief means for the harmonious development of all the powers, physical, mental, and moral.

(5) Creative activity is the harmonizing of spontaneity and social control.

(6) The curricula of the schools must be based on the particular activities and interests which are nascent at each stage of child life.

(7) The development of the human race is essentially related to the education of women.

(8) Mankind is still in the process of development, and education is the essential means for future evolution.

(9) Knowledge is not an end in itself but functions in relation to the activities of the organism.

4. History of the Kindergarten

The kindergarten is Froebel's most renowned contribution to education; his theory, practices, methods, and apparatus outstripped in popular favor all rivals in the field of infant education. He first seriously turned his attention to this work in 1828, according to a letter to his co-worker Barop:[37]

> For a long time my thoughts have been occupied with the right education and treatment of little children between three and seven years of age. Various influences and circumstances have now determined me to establish with the school at Helba, a nursery and institute for development of orphans between three and seven. I shall not call this an infant school because I do not intend the children to be schooled, but to be allowed under the gentlest treatment to develop freely.

It was not, however, until 1837 that he established, at Blankenburg, his first institution of this kind. This effort failed, and the first permanent establishment was opened in 1840. It bore the symbolic name *kindergarten.* From this time until his death in 1852, Froebel was able to establish a few other kindergartens and also a kindergarten training school for young women. Much of his interest was directed to the education of women, which he considered an essential part of his reform movement.

Several great leaders of German education—among them, Diesterweg—favored the novel system. But in spite of every effort, very few institutions were organized in Germany. It is to other lands and peoples that one must look for the fuller reception of Froebelian pedagogy. There were not wanting, however, some most enthusiastic German adherents to the new doctrine. A number of young women who received the training carried the new system into other lands. The Baroness Bertha von Marenholz-Buelow, a woman of marked ability, came into contact with Froebel in 1849, and was at once captivated by his ideas. Visiting many of the countries of Europe, where she established kindergartens and associations, she gave international scope to the movement.

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[37] Hanschmann, A. B., *Friedrich Fröbel; Die Entwicklung seiner Erziehungsidee in seinem Leben,* pp. 161–162. Dresden, Bleyl & Kaemmerer, 1900.

The kindergarten movement in America. Froebel prophesied that only in America would his ideas find fullest acceptance. This forecast was correct. The kindergarten was first introduced into the United States by Germans who came to this country after the Prussian revolution in 1848. Among these was the wife of the noted German-American statesman Carl Schurz. As a young woman, Mrs. Schurz, together with her sister, who introduced the kindergarten into England, had been a pupil in the training school which Froebel conducted. Mrs. Schurz opened the first American kindergarten in her home at Watertown, Wisconsin, in the year 1855. Three years later Caroline Frankenburg, also a student under Froebel, opened the second institution at Columbus, Ohio. Later, a number of German-English schools conducted in the thickly populated German settlements added the new institution. Through his writings on Froebel, Dr. William N. Hailman, in charge of the German-English school at Louisville, Kentucky, did much to acquaint Americans with the new doctrine. On the suggestion of Henry Barnard, who had his initial contact with the kindergarten in England, Miss Elizabeth Palmer Peabody started the first English kindergarten in Boston in 1860.

The spread of the movement over the United States has generally followed three steps of progress. The introduction of the kindergarten into new communities has usually been accomplished by individual teachers or mothers who have had contact elsewhere with the new principles and practices. The second step has been the formation of an association, which quite often has had in view a free kindergarten for under-privileged children. The last stage has been the incorporation of the kindergarten with the public free school system. The first school system to take this final step, apart from some transitory efforts, was that of St. Louis, Missouri, in 1873. The leader in this important action was Dr. William T. Harris, then superintendent of the St. Louis public schools and later United States Commissioner of Education.

Throughout the country the period of private enterprise in the establishing of kindergartens lasted from about 1855 to 1880. The period of philanthropic interest, under the associations and churches, had its largest development from 1880 to 1900. In all, over four hundred associations were formed. During this era several hundred city school systems adopted the kindergarten as an integral part of public education. During the present century the kindergarten movement has had a most remarkable growth.

Modification of theory and practice. Down to the beginning of the present century the kindergarten very strictly maintained the integrity of its doctrines and practices. The struggle for its introduction naturally caused it to remain aloof from other schools, both in theory and practice. Froebelian leaders fostered the system as an esoteric cult, and practiced the methods which they had learned in a ritualistic, formal manner. Primary school teachers, on the other hand, did not understand the new system, and were naturally critical of its results and hostile to its methods. About the beginning of the century, especially through the efforts of G. Stanley Hall, the vast accumulation of new knowledge from genetic psychology, biology, sociology, neurology, and hygiene was brought to bear upon the kindergarten. From that time the aloofness of kindergartners gradually decreased, and during the past several decades there has been a rapid fusion of kindergarten and primary work.

What is most significant in this readjustment is the fact that the principles of Froebel have in large measure dominated the work, though many of the formal practices of the early kindergartens have been abandoned. Among the chief contributions of the Froebelian philosophy have been the full adoption of the principle of self-expression, play, physical culture, creative production, dramatization, drawing, and social education.

The influence of Froebel's views has extended far beyond primary school education. The Sunday school and church generally, missionary activities, methods of Americanization, manual training, and many other cultural movements have been deeply affected. The makers of toys, games, textbooks, play apparatus for children, and even the sections of the newspapers for children, have been greatly influenced by his ideas. Moreover, much of the educational thinking of such leaders as G. Stanley Hall and John Dewey has been the outgrowth of Froebel's philosophy.

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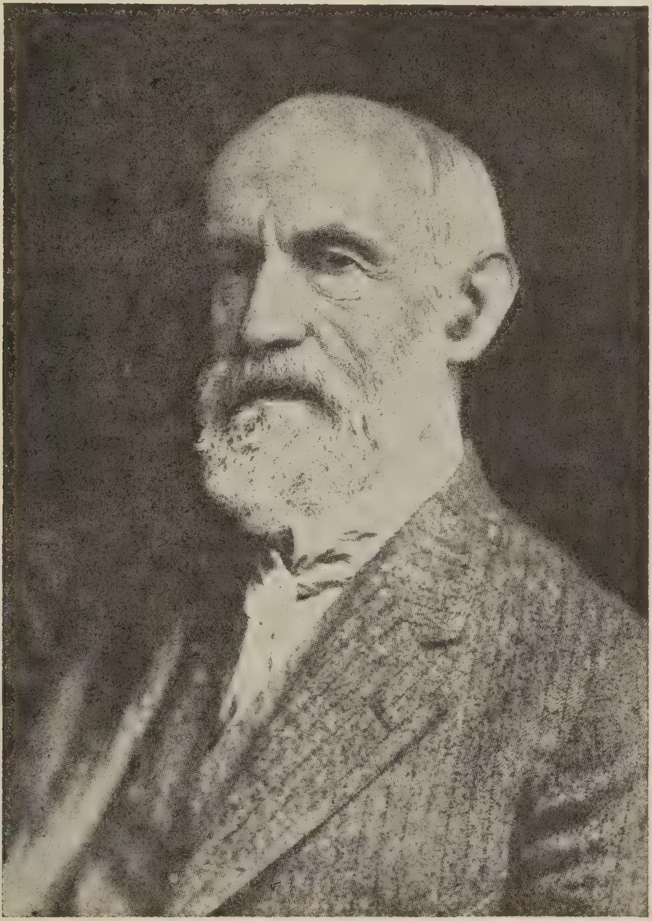
CHAPTER XXII

RECENT AMERICAN EDUCATIONAL REFORMERS

During the past half-century four Americans have in a special way affected the development of educational thought. These are: Francis W. Parker, William T. Harris, G. Stanley Hall, and John Dewey. Parker was an educational evangelist of marked power who followed out in practice the principles of Pestalozzi and Froebel. He was for many years the head of the Cook County Normal School, in Chicago. Important as were his great services in advancing the methods and principles of the new pedagogy, he was not, however, the creator of a new point of view. As superintendent of schools in St. Louis and for many years United States Commissioner of Education, Harris wielded an unparalleled influence. It was constructive but in no sense revolutionary. G. Stanley Hall and John Dewey are such recent contributors that education is as yet uncertain in its appraisement of their permanence. Yet, so dominant have been their respective influences that they demand treatment in any comprehensive view of recent developments. Each has had his separate group of followers and has sponsored particular movements, but in some respects their ideas have harmonized. No writer who has known both points of view intimately has, up to the present, made a comparison of their theories of education. In due time, however, the history of education must try to evaluate their contributions and select from each that which is of permanent significance.

1. G. Stanley Hall and the Child-Study Movement

Hall's importance for psychology and education. Was he a genius or a "playboy of scholarship," a sophistic "Hippias Pedagogicus" or the prophet of a new era? Such varied judgments were passed upon him while he was still alive. Did he give a permanent redirection to education, or will his ideas be forgotten? His name has received but scant and superficial attention in recent works on the history of education.



G. STANLEY HALL.

Outside of his immediate disciples, few have even remotely sensed what Dr. Hall was attempting to do. His scholarship was so idiosyncratic that he repelled people of conventional habits of thought. The truth is, he was a psychological and pedagogical adventurer who undertook to explore the paleontology of the soul. But most scientific scholars in the field of psychology have not been convinced that the world he undertook to explore was a real world. They are content to state that he risked everything on the recapitulation theory, and lost when the theory fell into disrepute.

Life, work, and writings. Granville Stanley Hall was born of Mayflower stock at Ashfield, Massachusetts, in 1844. Though his father was a man of intelligence, he had no particular desire to have Stanley go to college. However, for farming people, the family was one of unusual culture and intellectual activity. Despite his father's lack of interest, Stanley went to Williams College, where he graduated in the class of 1867. He set out to enter the ministry and, with this aim in view, entered Union Theological Seminary, in New York City. Through the good office of Henry Ward Beecher, a wealthy friend made it possible for young Hall to go to Germany for graduate study. First at Bonn and later at Berlin, he directed his attention to philosophy and theology. Returning to America in 1871, he accepted a position as a private tutor. From 1872 to 1876, he was a professor in Antioch College, at Yellow Springs, Ohio, where he taught English literature and philosophy.

Becoming deeply interested in psychology, Hall resigned his position at Antioch and spent two years at Harvard University as tutor and graduate student. Here he studied under William James, the famous psychologist, and received his Ph.D. degree in 1878. He then proceeded once more to Berlin, where at first he specialized in physiology. The second year he went to Leipzig to study psychology under the famous Wilhelm Wundt; theology, under Dorner; and philosophy, under Trendelenburg.

During his many years as a student at Harvard and at German universities, Hall received a training unusual in its comprehensiveness. It included specialization in theology, philosophy, physiology, anthropology, biology, anatomy, and neurology, under the most noted experts of Germany and America. No other man of his time could feel so completely at home in so many diverse and yet related fields of science.

Returning to Boston in 1880, he made his famous study the *Contents of Children's Minds on Entering School.* From 1882 to 1888, he taught psychology and pedagogics in Johns Hopkins University. Elected president of Clark University in 1888, before assuming office he revisited Europe for nine months to study the organization of higher education in various countries. For the next thirty years he was the center of the most unique institution of higher education in the world. He gathered about him from year to year a small but select group of students who possessed the pioneering type of mind. Stimulated by his indefatigable spirit and creative insight, they explored the unknown regions of genetic psychology and education. Dr. Hall himself published some fourteen volumes and over three hundred and fifty articles touching a wide range of subjects. He died in 1924.

Genetic psychology. In 1859, Charles Darwin published his celebrated work, *The Origin of Species,* and a new epoch began in human thinking. It is impossible for anyone today to understand how vast and far reaching were the effects of the announcement of the theory of biological evolution. Every subject of human interest came in gradually for complete reorganization in the light of this new point of view. One of the most difficult problems that faced the theory of evolution was to account for the human mind and soul. Psychologists were naturally somewhat tardy in attacking this perplexing problem. It was this challenge of reconciling man's mental life with the evolutionary hypothesis that formed the motive of all Dr. Hall's thinking.

The evolutionary theory early gripped his interest in a most astonishing way. He described the experience as follows: [1]

> As soon as I first heard it in my youth I think I must have been hypnotized by the word "evolution"; which was music to my ear and seemed to fit my mouth better than any other.

Nothing quite so completely satisfied his ambition as to be called "The Darwin of the Mind." What Darwin and his followers did to piece together the various lines of evidence for the evolution of biological life from single cellular forms to the complex human body, Hall endeavored to do for the mind. He was a scientific adventurer in the world of psychic phenomena. He undertook to explore the uncharted areas of mind in the animal and human world. In this striking ad-venture he possessed all the dash, the courage, and the expectancy of a discoverer of new continents. He made mistakes that shocked petty, timid, and conventional souls and brought the sting of ridicule upon him. For the technicalities of systematic scholarship he cared little. His was the romance of primal discovery, an aërial survey from a great altitude; others were expected to follow with their yardsticks and cartography.

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[1] Pruette, Lorine, *G. Stanley Hall; A Biography of a Mind,* p. 208. New York, Appleton, 1926.

Fundamental theory. Dr. Hall's fundamental theory is that mental and physical life are always parallel; in technical language, there is no psychosis without neurosis. Mind and body have evolved together through millions of years on the earth. Physical life began in a single unicellular creature, and so did mind. Through millions of years and infinite changes, the body has evolved to what it is today; at every stage the mental life accompanied the physical. To chart the great nascent developments of psychic life through all the past, and to assist in the future growth of the soul formed for Dr. Hall a religious task to which he dedicated his life with zealous interest.

In the first living cell, whose origin is not known, resided in some way all the potentialities which, through millenniums, have evolved into the complexity of life that appears in the world today. Human nature is as old as life itself. Hunger is the most original and inherent cause of activity. It is the creator of interest and curiosity. The quest for food is the origin of mental life, because it is the cause of action.[2]

> Every thought and feeling has as its *motif* the feeding of the hunger of some group of cells. . . . The *amoeba has a soul or else man has none.* We must be vitalists or mechanists all the way along the series; we cannot shift our point of view when we come to man.

After the one-celled animals came the many-celled. Presently, along the shore lines of the world, there appeared myriads of cells and highly complicated tissues and organs. Life was moving up the scale. Locomotion became more efficient for seeking food and for escaping enemies. Subsequently, a nervous system developed in the worm, and mental life began a new epoch. Finally, the vertebrate forms appeared with the greater complexity of the nervous system. "At some stage of the great drama, cold-blooded, scaly reptiles were transformed into warm-blooded mammals," and in due time man was evolved. As the hand was used, the brain began to develop, "for the mind of man is handmade." Then, language and primitive arts sprang up. Such, in a sketchy outline, was the gradual evolution of life—body, mind, and activity; in and through the entire process the mental life was evolving along with the body and its activities. First, there unfolded the great basic instincts: food-getting, reproduction, and avoiding enemies. Correlated with these was the evolution of the senses: touch, taste, smell, hearing, and sight. Then followed the growth of the intermediate mental organs and the basic emotions. Finally, with the development of tribal society, man's higher soul life was realized.

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[2] *Ibid.*, pp. 210–211.

Child study and the recapitulation process. The evolution of mind and activity in the race is of the greatest value as a scientific theory explaining the origin of man. But it has also a very practical application. The child-study movement and adolescent psychology are areas of the immense field of genetic psychology; Dr. Hall was spurred on in his study of mental evolution more especially by a profound interest in education.[3]

> He strove to understand the history of mind that he might understand the possibilities of a single child. . . . He was a crusading knight, riding to the rescue of the distressed, and he was able to enlist countless others under the banner that proclaimed the ideal of a wholesome and happy childhood.

Genetic life and psychology had a deepened significance for Dr. Hall because he believed that all the evidence showed unmistakably that the child repeats the evolution of the race. This theory, as already indicated, was not a new one. It began with Rousseau in a very general way; for Herbart, it took the form of the culture-epoch theory; for Froebel, it was the law of recapitulation of spiritual development. Dr. Hall now viewed it in the clearer light of biological evolution, and added thereto the idea of the recapitulation of the instincts and mental processes of past ages. The human embryo passes through stages similar to those through which the race passed in its earliest history. The development of the infant repeats the life period of the primitive social group. The child passes through a hunting period, a cave period, a building period, and so on.

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[3] *Ibid.*, p. 221.

The individual inherits the stored-up results of all the experiences of the past. More particularly, the practical activities, ritualistic performances, and those actions which, because of repetition, tended to become habitual were stored up and handed down to the new-born through heredity. Such is the origin of man's instinctive responses and impulses. Many of them exist in the soul as vestigial organs do in the body. Dr. Hall is credited with the parable of the tadpole's tail. Frogs do not have tails, but tadpoles do have tails. If the tail of a tadpole is cut off, the back legs of the frog will not grow, because the nutriment for their development comes from the tail. It is absorbed and gradually disappears; but it has been absolutely essential for later development. So it is in human growth. Many activities and organs of childhood, that are needed to insure the full development of the body and mind, will disappear or undergo great modification.

The analogy of this biological fact may be found in the mental life. There flash across the consciousness or in dreams strange ideas, emotions, or images that come from ancestors and are, so to speak, the fossilized mental processes of the far-away past. Many of the experiences and impulses of children are remnants of some great psychic habits long since forgotten. Fleeting fancies often afford glimpses of the ancestral life. These have been retained in man's unfolding heredity, just as he retains some particular facial feature, bodily characteristic, or mannerism from his ancestors.[4]

> The evidence for the truth of such a conception of the mind and body of man is now so great, and so corroborative one part to another, that it is hardly possible to doubt it. Both mind and body are full of observable traces of

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[4] Partridge, G. E., *Genetic Philosophy of Education,* pp. 25–27. New York, Sturgis and Walton Company, 191.

> their ancient origin. . . . The evidence that the mind as well as the body retains vestiges of the past is now beyond dispute. . . . Rudimentary psychoses are as evident as rudimentary organs.
>
> Human courtship, care of the young, crime, fears, subconscious habits, demand for their explanation an evolutionary theory. Many actions of the infant can be explained in no other way. . . . We must see that mind and body alike are teeming with the traces of ancient life, both human and prehuman, knowledge of which is of the greatest importance for a comprehension of the most common facts of daily life; and for education, and all other fields of conscious evolution.

Such is a brief summary of the theory of psychic evolution, or genetic psychology, that Dr. Hall elaborated.

Study of child nature. Down to Dr. Hall's time comparatively little systematic investigation of child nature had been done. The most important studies made were in the field of infant development. Charles Darwin had written *A Biographical Sketch of an Infant* (1877). The German psychologist Preyer had published *The Mind of the Child* (1880), a work of systematic observation. The same year Dr. Hall made his famous study on the *Contents of Children's Minds on Entering School.* After assuming the presidency of Clark University, in 1891 Dr. Hall began the publication of *The Pedagogical Seminary,* largely devoted to articles on child study and on education from this new standpoint. Later, one of his students at Clark, Dr. Frederick Tracy, published *The Psychology of Childhood.* From this time the movement ripened with great rapidity and popular interest. A large number of societies were formed all over the country. Similar movements took form in European lands. Dr. Hall was the acknowledged leader of the movement for the scientific study of child nature and development. Not only did he publish numerous articles, but through his students at Clark University a vast number of investigations were made. These studies profoundly influenced the attitude of teachers and parents in regard to the methods and curricula of all levels of education.

Adolescence. The study of adolescence may be considered the chief contribution to modern pedagogy since the time of Rousseau; it is certainly the most important for secondary education. Though usually thought of independently of the study of child life, as a matter of fact, adolescence is just a part of the genetic movement. While Dr. Hall must share with others the honor of initiating the study of child nature, he was the real creator of the science of adolescence. The few scattered studies of special topics made before Hall's day were largely inconsequential and gave no indication of the vast significance of the subject as a whole. Dr. Hall's two-volume study, *Adolescence; Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion and Education,* will long remain an imperishable monument to his deep sympathy and profound insight. Only a man with his comprehensive knowledge of all the sciences which treat of the human organism was capable of launching such a new science or combination of sciences.

The study of the phenomena of adolescence has had marked effect upon secondary education in our country. It has aided greatly in bringing about the organization of the junior high school, altered fundamentally the secondary school curricula, and in many ways affected methods. The popularizing of knowledge of adolescent life has profoundly revolutionized the attitude of parents, teachers, and religious workers, in regard to the treatment of the youth.

Play. Hall takes his stand with the great educational reformers in favor of play. Next to hunger, sex, laughter, and crying, play must be regarded as the most general and most racial of all activities. In play the child repeats the old central activities of the race. Play is an expression of the past habits of the race that have been stored up in the nervous system and handed on by heredity. It is the inner force which makes for the expression of all movements and activities, and for the acquisition of control and skill. As play is instinctive, it has no conscious ends in view. Education must understand and utilize the play motive, for it is the most natural force in the development of child life. Early education must be chiefly play, and throughout life, play is a necessary restorative of human energies. Of the educational value of play, Dr. Hall wrote: [5]

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[5] Hall, G. Stanley, "Play and Dancing for Adolescents," in *The Independent,* Vol. 62, pp. 355–356.

> Play is the best kind of education, because it practices powers of mind and body which, in our highly specialized civilization, would never otherwise have a chance to develop. To understand the play instinct we must know something of the past life of the race.

Again, in full explanation of his views of play as recapitulation, he says: [6]

> In children, especially, most of their lives consist in rehearsing the rude history of their race. The most persistent plays and games are not, as Gross says, practicing for future occupations, but are nothing but repetitions in abridged and sportive form of the serious occupations of their ancient forebears. The best definition we have of child-life is that it is early human occupations epitomized: for the child relives the history of the race in his acts, just as the scores of rudimentary organs in his body tell the story of its evolution from the lower forms of animal life from which he has inherited his every organ and tissue. Let us, then, grasp the vast and significant fact that wherever we find any interest, instinct, or impulse to act that is strong and spontaneous, it is always an expression of the momentum of the past. The all-dominant, but of course mainly unconscious, will of the child is to relive this past, as if his early ancestors were struggling in his soul and body to make their influences felt and their voices heard.

The reason play is so pleasurable is because it is instinctive. The more truly activities are the expression of the oldest and most deep-seated instincts, the more pleasurable they are.

Fancy, the play of the soul. Educational theorists have been sharply divided upon the question of the use of fancy and fairy tales. Factualists, like the Puritans, Rousseau, and John Dewey, oppose the use of fairy tales and literature of fancy. They regard all such make-believe, not only as false, but even as injurious to the mind. Others, theorists like Plato, Froebel, and G. Stanley Hall, look upon myths, fairy tales, and Mother Goose stories as the play of the mind. Such literature is as essential for the proper development of the mind as physical play is for the growth and the coördination of muscles and nerves which leads to motor control.

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[6] Hall, G. Stanley, "The Natural Activities of Children as Determining the Industries in Early Education," in *Proceedings of the National Education Association* (1904), p. 444.

The influence of feeling and impulse upon the intellectual life is most directly observable in the activity of the imagination. It expresses its nature in faith and belief. Beliefs represent the life of the race. They are more comprehensive and powerful than the experiences of the individual, and become the deciding factor in all important life situations. This inherited background is the reality and the drive behind all the activities of imagination, dreams, and their outcropping interests. It guides the attention in all its flittings, and governs the apperceptive processes.

Imagination is of two kinds, the purely reproductive and the creative. In the one case, it reproduces images of the objects experienced by the senses; in the other, it creates spiritual entities such as we know in myth, fairy tale, and Santa Claus legends. The mind of the child is highly animistic. This characteristic is the element which reads into the world of things the feelings, the sense of self, and the power of which the child is becoming conscious. This attitude of the child has a vital relation to his later interpretation of life, religion, and morals. The imagination is most creative in the realm of the ideal.[7]

> The intellectual life is a growth, a series of stages in which there is always a partial adaptation to the practical needs of the individual, while all the time there is progress, by an apparently circuitous route, toward a permanent adjustment, in adult life, to the demands of the environment. Thought at each stage is in excess of the needs of that stage; but from the excess of thought and fancy the practical intellect is shaped by the needs of life; and the mind, which is inclined by nature to roam everywhere, to be free and to follow the instincts and racial feelings, is finally domesticated and harnessed to definite tasks.

Myth. The best example of the dominance of the intellect by the background psychic life, the unconscious will, is the myth. Myths have grown out of the feelings of the race, and have created a world of unreality. In many ways the growing mind of the child repeats the myth-making interest of the race. The child lives in two worlds at the same time: the world of sense or things, and the world of fancy; the world of outer experiences, and the world of racial experiences that well up within him.

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[7] Partridge, G. E., *op. cit.*, p. 63.

Truth, for the child, is only in part a matter of sense experience. He is constantly at work creating for himself, out of his own instincts, a body of truth; he does this in ways but little controlled by his environment.

Stages in child life and education. Along with Rousseau and Froebel, Hall recognized that individual human development proceeds in distinct stages. These stages in a general way represent the great eras in racial history. Furthermore, Hall believed in special developments, when particular organs or functions suddenly burgeon and bring about new activities and experiences. He divided the development of child life into four general stages—infancy, childhood, youth, and adolescence.

Infancy is the period from birth to about four years of age. It is the time of rapid physical growth and of the acquisition of such fundamental activities as walking, talking, and the movements necessary for self-preservation. The sense organs are most active in this period.

The stage of childhood extends normally from about four to eight years of age. The sensory life is now no longer dominant, but gives place to the activity of the imagination. The education most suitable to this period, as recommended by Dr. Hall, is as follows:[8]

> Now for five years or more the chief educational need of the child is that his mind be provided with rich cultural material stimulating to the imagination, and that he should be left free to work this out and express it in free play. The child must now live through the stage of myth-making and poetic fancy of the savage; the receptive faculties must be steeped in nature lore, story, and those inventions of natural religion which the race has now outgrown, but which are suited to the child's needs. It is only in such a way that the mind, acted upon by the environment, adds a stratum above the merely sensory plane, and begins to work in a larger field, both in time and space, than the senses can grasp. It is all-essential now that the child's world be

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[8] *Ibid.*, pp. 206–207.

> made rich and full; and consequently it must be crude, unfinished, disjointed, and illogical. Fancy must roam free, thought must grapple with all the problems of the practical and ideal worlds, but there must be no forcing, nor strain after precise knowledge.

As this statement indicates, Dr. Hall well appreciated the part which fancy and imagination play in the evolution of the mind.

Youth is the period from eight to twelve or thirteen years of age, the pre-pubertial age. In this stage the child is recapitulating the humdrum life of savagery, which endured several hundred thousand years. Physical growth slows up, and his intellectual powers become less active. Life demands that the fundamental habits of society and the rudiments of learning be acquired during this stage. Drill, repetition, ritual, and regimentation are necessary for the stabilization of character, in view of the coming storm and stress of puberty. Moreover, such routine is actually pleasurable. Dr. Partridge sums up this period and its training as follows: [9]

> The method of teaching should now be mechanical, repetitive, dogmatic, and authoritative. The powers of retention are at their greatest height, and they have greater capacity, by far, than we yet employ. We have much to learn in this particular from the schoolmasters of the past. The greatest possible stress, short periods, few hours, incessant insistence, incitement, little reliance upon interest, reason, or work done without the presence of the teacher—these are the correct methods in imparting the essentially formal elements of knowledge.

Thus, according to Hall, the education of youth is quite the opposite of that of children, or of that of adolescents.

Adolescence begins with puberty and extends to full physical maturity, at from twenty-two to twenty-five years of age. This period corresponds in race history to the period of modern civilization; its education must follow quite a different philosophy from that followed in the earlier stages.[10]

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[9] *Ibid.*, pp. 209–210.

[10] *Ibid.*, pp. 211–212.

> At adolescence the aspect of all education must radically change. Once more the need is for free play of interests, developing from within. Now, as in early childhood, comes a time when feeding the mind must take the first place, and all drill and discipline must be subordinated. Appeal must be made to enthusiasm and inspiration. The powers of appreciation and intuitive understanding must be depended upon, and too much must not be asked from the child in return. Examinations have but little place. The method of teaching must be to present large conceptions, rather than details. The world must be taught as a whole, rather than in its minute parts. Quantity and enrichment are more to be desired than accuracy. The purpose must be to bring out the child's own interests and enthusiasms, and so to nourish and lead them as to raise them to the highest possible level. Culture must be all-sided and at every point the emotional life and the intellectual life must be kept in close contact with one another.

Range and detail of Hall's studies. Dr. Hall was not content to elaborate a general theory of genetic psychology. He strove to explore the entire range of child nature and activities, and to study certain aspects in detail. His work was an elaboration of the best ideas of Rousseau and Froebel, but he reinterpreted their principles in the light of biological evolution. He was convinced that every advance in modern education was directly caused by a more definite knowledge of children, and a deeper sympathy for their needs. His books and articles, which are almost four hundred in number, present an amazing array of topics. He discussed the regimen of the nursery, the reconstruction of the kindergarten, the vitalization of the primary school and elementary education, the reform of the high school, the reformation of the Sunday school, the reorganization of the normal schools for the training of teachers, and many phases of reform of college and university education.

His interest in everything pertaining to health and physical development marked him as one of the pioneers in physical and mental hygiene. He discussed overpressure in schools; the heating, lighting, and ventilation of school buildings; dancing and other forms of recreation; sex information, abnormalities of mind, social hygiene, mental health, morale, and eugenics.

Dr. Hall's discussions of adolescent life and training were voluminous; all aspects of development were included. He wrote numerous articles on the education of adolescents at the level both of the secondary school and of the college. No other writer in modern times has been intimately conversant with the varied phenomena of human development at so many points. His many-sided specialization gave him comprehension and insight that were unparalleled.

Among the emotional expressions and other activities of children that he traced and studied were fear, anger, pity, curiosity, interest, collecting, cave-building, doll play, sand-pile, and other forms of play. Physical growth, moral and religious developments, growth of the will, social nature, rhythm, and feelings were discussed. Other subjects that he treated were the early sense of self, showing off, bashfulness, love of nature, speech development, early memories, children's lying, and imagination and fancy.

In the field of teaching, Dr. Hall discussed methods of teaching history, religion, morals, reading, rhetoric, literature, and other subjects. Methods, he claimed, must be adapted to the subject and also to the dominant psychology of the particular period; the instruction of the adolescent will, therefore, be quite different from that of the pre-adolescent child.

Fundamental principles. (1) The continuance of the race is supremely important; the individual is incidental. Education must recognize this fact and direct its course in accordance with this principle. Sex life, reproduction, and the rearing of children are the prime functions of life, and must occupy a position of centrality in education.

(2) The emotional life is far more fundamental than the intellectual. Intelligence is a comparatively late development, while emotion is as ancient as life itself. Emotion furnishes the motivation for the development of the intellect. Consciousness and thought owe their origin to the emotions. Intelligence and its subsequent development have grown out of the activities of man in securing food, avoiding enemies, seeking shelter and in exercising his imagination.

(3) Human development is a process of recapitulating the racial developments. It proceeds from the fundamental to

the accessory. The child in his progress upward shows first the simpler, more ancient forms of activity, and then gradually develops the more accessory functions. The movements of trunk and shoulder develop earliest; later, the finer movements of wrist, hand, and finger. Similarly, in the development of the mind, the more general and simpler things come first; later, the more detailed and specific. This order must govern the procedures of education.

(4) Education must be based upon the development of the child's own nature—his activities, capabilities, and interests. It should be all-sided and lead to a well-balanced, normal personality.

(5) All the sciences which throw light on human nature form the basis of a science of education.

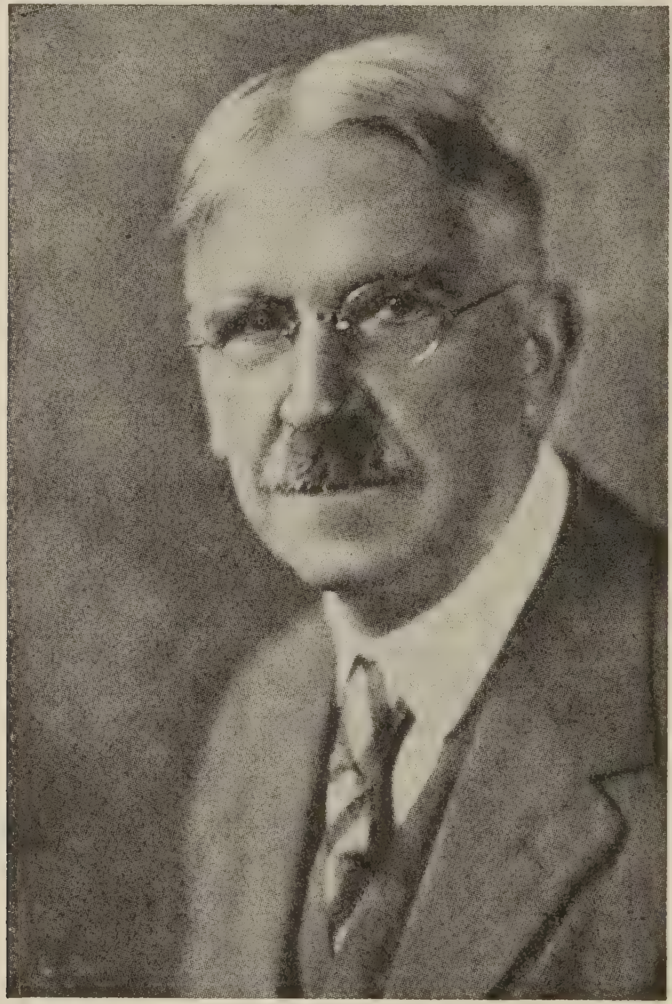
Hall's influence. Dr. Hall was not so much a genius as a daring scholar of rare ability and comprehensive training. His knowledge of many sciences gave him the power of integrating ideas from many fields of science that are not usually correlated. His ideas have entered vitally into the thinking of present-day educators, and have vastly modified our educational procedures. It may never be possible for historians to evaluate definitely his influence on education, because of the vast complexity and diversity of present-day educational ideas.

Criticisms of his theories. Among the criticisms which have, at least temporarily, dimmed his fame and decreased his influence are these: (1) The questionnaire method which he used extensively in securing data on child life is not sufficiently accurate for scientific purposes. (2) The recapitulation theory, on which he based his views, has not been found true except in a very general way, and many of the developments supposed to be recapitulations are more easily explained in other ways.

2. John Dewey and Social Education

For thirty years Dr. John Dewey has been one of the foremost educational leaders of America. He is regarded by many people, moreover, as the greatest philosophic thinker the New World has produced. No other philosopher has devoted so much attention to the discussion of educational questions, nor has any other exercised so profound an influence on the schools not only of America but of other lands as well.

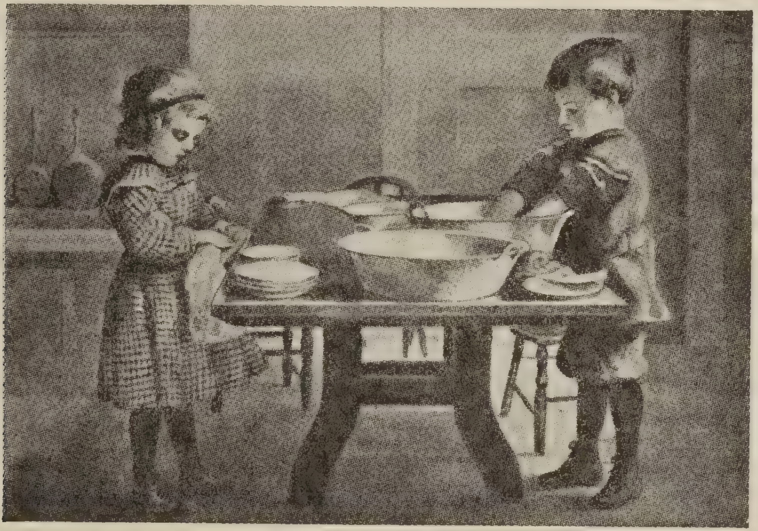
Life and work. John Dewey was born at Burlington, Vermont, in 1859. He received his early training in the public schools of the town, and his academic education at the University of Vermont. He graduated in 1879, but remained at the university for another year in order to continue the study of philosophy. After teaching a country school for a brief interval, he entered Johns Hopkins University, where, at the



John Dewey.

conclusion of two years of graduate study, he received his Ph. D. degree. At Johns Hopkins, Dewey specialized in political and institutional history under Herbert B. Adams; in philosophy, under George S. Morris and Charles S. Pierce; and in psychology, under G. Stanley Hall.

For some time Dr. Dewey taught in the University of Michigan; in 1894, he was called to be head of the department of philosophy at the University of Chicago, where he remained for nine years. It was here that he established the *University Elementary School,* which speedily exercised an astonishing influence upon the course of educational theory and practice. From 1904 until recently, Dr. Dewey has been professor of philosophy in Columbia University, New York City.



After Luncheon in Dewey's Elementary School, at the Univeristy of Chicago.

His fame as a philosophic thinker and educational reformer has been spread by his students to foreign countries. In 1919, he was invited to lecture on philosophy and education at the Imperial University of Tokyo, Japan. He likewise lectured for two years at the University of Pekin, China. The Turkish Government requested him to reorganize its school system, and similar recognition has come from Russia. No modern educational thinker since Pestalozzi has been so universally honored.

The University Elementary School. In January 1896, in connection with the courses in education at the University of Chicago, Dr. Dewey opened the University Elementary School as an experimental laboratory. The purpose was to found a school where "theories and ideas might be demonstrated, tested, criticized, enforced and the evolution of new truths" take place.

The children in this school varied in age from four to twelve or fourteen, and were divided into small groups, of eight or ten to the group. No rigid scheme of grading was adopted. Several instructors who had had kindergarten and primary experience conducted the work under the direction of Dr. Dewey. A "Plan of Organization" was formulated "to define the general spirit in which the work is undertaken," but "not to give a rigid scheme." The procedure of the school followed in a modified way the practices of the less formalized kindergartens of the day. In accordance with the object of the school's establishment, however, every effort was made to discover new and more natural methods. As Dr. Dewey states: [11]

> The teachers started with question marks, rather than with fixed rules. . . .
>
> We started upon the whole with four such questions, or problems:
>
> (1) What can be done, and how can it be done, to bring the school into closer relation with the home and neighborhood life—instead of having the school a place where the child comes solely to learn certain lessons? What can be done to break down the barriers which have unfortunately come to separate the school life from the rest of the everyday life of the child? . . .
>
> (2) What can be done in the way of introducing subject-matter in history and science and art, that shall have a positive value and real significance in the child's own life? . . . Some statistics have been collected showing that 75 to 80 per cent of the first three years of a child in school are spent upon form—not the substance—of learning, the mas-

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[11] Dewey, John, *The School and Society* (Third Edition), pp. 116–119. Chicago, University of Chicago Press, 1900.

> tering of the symbols of reading, writing and arithmetic. There is not much positive nutriment in this. . . .
>
> (3) How can instruction in these formal, symbolic branches—the mastering of the ability to read, write and use figures intelligently—be carried on with everyday experience and occupation as their background and in definite relation to other studies of more inherent content, and be carried on in such a way that the child shall feel their necessity through their connection with subjects which appeal to him on their own account?
>
> (4) Individual attention. This is secured by small groupings—eight or ten in a class.

From the beginning, this experiment in new educational methods produced phenomenal effects. First of all, it helped to clarify Dr. Dewey's principles as to the underlying processes of education. Then again, it attracted extraordinary attention from educational leaders throughout the country, and became the stimulus for similar experimentation in a number of places. The results of the investigation were published in a small book, *The School and Society,* which ran through numerous editions. No other educational work of recent date has been so widely read.

Dewey's chief educational writings. Dr. Dewey has been a prolific writer. A large number of volumes and hundreds of articles have come from his pen during the past forty years. Many of his publications have to do with the various aspects of pure philosophy, and are of interest only to students who wish to acquire a more accurate knowledge of his fundamental theories. The following are his chief works on education:

1896—*Interest and Effort as Related to Will.*
1899—*The School and Society.*
1900—*The Elementary School Record.*
1902—*The Child and the Curriculum.*
1910—*How We Think.*
1913—*Interest and Effort in Education.*
1915—*Schools of To-morrow* (With Evelyn Dewey).
1916—*Democracy and Education.*
1920—*Reconstruction in Philosophy.*
1922—*Human Nature and Conduct; An Introduction to Social Psychology.*
1925—*Experience and Nature.*

1929—*The Quest for Certainty; A Study of the Relation of Knowledge and Action.*
1929—*Sources of a Science of Education.*

I. FUNDAMENTAL PHILOSOPHICAL PRINCIPLES

Nature of mind and knowledge. Like other speculative thinkers, Dr. Dewey has a general system of philosophy in which he explains the nature of the mind and of knowledge. Although it is quite abstruse, one must understand this basic view to appreciate Dewey's principles of education.

(1) *Instrumental character of the mind.* Dr. Dewey bases his educational principles and practices upon a theory of the evolution of the mind and knowledge. In harmony with the hypothesis of biological evolution, he holds that mind and intelligence have evolved in a purely natural way. They have evolved because of the activity of human organisms in meeting the varied practical and social situations of life. Human beings found that perceiving objects, remembering them, and reasoning about them greatly increased the power of controlling these and similar objects and situations. The employment of mental powers in connection with the ordinary activities of daily existence brought results which otherwise could not have been enjoyed. Mind is, so to speak, a most effective tool or instrument. By the use of this tool, man has raised himself above the other creatures.

But when one says that mind or intelligence is a tool, it is understood that the term includes all aspects of the mind—thinking, feeling, and willing. Knowledge is not something apart from the mind; ideas are modes or activities of the mind. They are developed and retained by the individual in order to assist him in controlling the objects of the environment, and to avoid pain or to secure satisfaction. Such, in brief, is the instrumental theory of intelligence which Dewey, among others, has elaborated.

(2) *Relation of knowledge and action.* From what has just been stated, it is clear that, in the course of human development, knowledge did not precede action, as is generally believed. Just the reverse is true: action always preceded experience which is the source of knowledge. A simple illustration will make this principle clear. The child thrusts his hand toward the fire, and is burned. He thus learns that

the movement of his hand under this circumstance brings a painful experience. So it is with all learning. The individual acts upon the numerous impulses and instincts that have been inherited, and in each case a definite experience results. In precisely the same manner, all the way back through the biological scale, action was spontaneous and primordial, and, as a consequence, experience, knowledge, or learning arose. In a sense, therefore, knowledge is incidental to action; it is a by-product of action.

The ordinary conception has always been that knowledge arises apart from action, that it has an independent existence. For example, consider the well-known fact "Washington is the Capital of the United States." This is a single, definite piece of knowledge. It is distinguishable from every other fact, and apparently it exists apart from any action of the reader's. But, as Dr. Dewey views it, this fact exists only as related to the reader's action and the actions of other people. Among its many implications are these: If one acts in a particular manner he will come to experience visual and tactile contacts with the city of Washington, and will know it as the Capital of the United States. In truth, it does not exist at all apart from his action; any significance or meaning that it possesses has reference only to what he does or wishes to do.

If knowledge is derived thus from action and as a by-product of action, it should not be dissociated from the activity that produced it. In fact, it has no real and continued existence or significance when thus dissociated from action. This idea has some profound educational inferences that will be brought out later. But it is necessary to look still further into the relation of an idea to the activity which produced it. As experience or knowledge grows from action, in turn it is fused with the activity itself in order to redirect, modify, or nullify the repetition of the act. This is the innermost secret of the learning process. The original activity undergoes a change because of the results which follow it. In the simple illustration already suggested, the child thrusts his hand toward the flame. A dire result follows, a sharp pain. Any tendency to repeat this action is naturally inhibited; the child has learned one of the salutary lessons of life. A creature of much lower intelligence that cannot resist the fascination of the flame, will repeat the experience, to its own destruction. Thus, it has been concluded: first, that action is primordial, and that experience follows action; also, that experience modifies action, either by inhibiting it entirely, or by redirecting or repeating it.

(3) *Knowledge developed from the central activities of the race.* All knowledge has been the result of activities of individuals in their struggle for existence. The dominant activities thus engaged in because of man's needs were directed toward securing shelter, food, and clothing. These activities exerted by our ancestors all the way back have resulted in forming powerful tendencies that are inherited by the offspring today as instincts, impulses, and interests. These inherited tendencies are not definite, fixed, instinctive activities, as in the animals; they are general urges that respond to the stimulation that comes from the environment. Furthermore, as already noted, it was through the expression of these activities that human intelligence was brought into function, and was exercised and developed. According to Dr. Dewey's view, it follows, therefore, that the great fundamental activities of the home and social life constitute for the child the starting point of the education process.

(4) *Social relations of knowledge.* Another fundamental principle of Dr. Dewey's philosophy and in many respects his chief contribution, is that knowledge is always a social instrument. This will be discussed at some length later. In the meantime it is necessary to consider further the processes of securing knowledge, especially in its higher aspect as the result of thinking.

II. HOW WE THINK

In *How We think,* Dr. Dewey analyzes the conditions under which the mind does its thinking. He takes issue with the vague notions of the past that thinking is a process which takes place apart from the ordinary affairs of life. Thinking does not just happen; it does not take place in a vacuum; it does not result from pure contemplation. Nor yet does it come from just amassing sensations and assorting them into classes. There must be something to cause thinking—that is, to oblige the human organism to think. So long as the activity of the individual flows along smoothly in an easy course, there is nothing to cause him to think. But when some change in his conditions takes place, when his action no longer fits the circumstances or is entirely blocked, or when he is uncertain what course to pursue, he is compelled to think. The following are illustrations: the window sash will not close; the automobile will not start; the stomach will not digest its food; the monetary system no longer performs its accustomed function. Each of these changed situations is a challenge to thought, a demand that the individual bestir himself and discover what new kind of action is necessary to restore the satisfaction formerly enjoyed.

Thinking, therefore, always takes place when a problem comes up. Problems are the necessary conditions for aggressive mental activity. Dr. Dewey explains, in the following brief passage, how it comes about that a problem causes thinking:[12]

> A question to be answered, an ambiguity to be resolved, sets up an end and holds the current of ideas to a definite channel. Every suggested conclusion is tested by its reference to this regulating end, by its pertinence to the problem in hand.

When a problem is presented to the mind in the manner just described, one begins to analyze the situation and to discover what readjustments must be made, or what hypothesis will explain the situation, and what remedy must be applied. Thereupon the individual frames a conclusion and tries it out. If it works, well and good; experience has been enriched, and activity has been readjusted and moves forward again serenely, until some new difficulty arises. Thinking is, accordingly, a function of activity; it is a continuous process of experimentation, or of readjustment of experience.

Thinking and inductive reasoning. In analyzing the processes of thinking, in the higher aspects of the term, Dr. Dewey recognizes "five logically distinct steps." These steps, or procedures of the normal intelligence, are as follows:

(1) First there occurs the consciousness of a difficulty, or a problem, or a felt need.

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[12] Dewey, John, *How We Think,* pp. 11–12. Boston, D. C. Heath, 1910.

(2) Next comes the brooding of the mind over the total situation until, by an analysis of its various elements, the mind locates the heart of the difficulty and the factor of greatest significance is defined.

(3) Then follow suggestions as to possible solutions.

(4) The bearings of each suggested solution are developed, and the most probable solution is submitted to action, that is, to experimentation.

(5) Further observation and experimentation lead to the acceptance or rejection of the solution.

Such is the course that all normal minds pursue in the practical affairs as well as in the theoretical problems of life.

Some have suggested a similarity between these five steps and the five formal steps of the Herbartian methodology. Such a view is, however, far-fetched. There is in Dr. Dewey's analysis nothing more than the well-known method of reasoning according to inductive logic: it is merely the process of recognizing a problem, analyzing its elements, framing an hypothesis, testing out the hypothesis by the amassing of more facts, and the continuation of the process until a solution is found. In other words, this is the method of experimentalism that modern science has been following for centuries.

The application of this principle is quite old and comes from the doctrine of the useful, as advocated by Comenius, Rousseau, and others. But Dr. Dewey deserves credit for making educators more fully aware of the significance of the process in the development of the mind. This principle has formed the basis for his insistence upon methods of instruction that are in accord with the normal course of mental activity. From this analysis of how the mind works there has come into recent methodology the so-called *functional method*, the *project method*, the *problem method*, and the program of activities.

III. Dewey's Philosophy of Education

A system of philosophy is of little value, nor is it worthy of credence however logical it may appear, until it has been tested in the field of education. If a theory does not hold true in its doctrine of man, its explanation of human development, and in its views of moral and social progress, it is worthless. Dr. Dewey belongs alongside Plato and Herbart as a thinker whose general philosophy and philosophy of education aspire to form a consistent whole.

Education is not in any way a trivial affair that can be relegated to old women and nursemaids. It is an indispensable social process, a means for the orderly ongoing and progress of human society. All education must proceed by the participation of the individual in the social activities and purposes of the race. It is a process by which civilization is preserved and carried forward in its attempts to complete itself. Education is, therefore, the most significant of all the activities of society.

Dr. Dewey defines *education* as "the process of the reconstruction or reconstitution of experience, giving it a more socialized value through the medium of increased individual efficiency." He has repeated this definition consistently throughout his works on education. As it is a rather abstract statement and different from the traditional definitions based upon the etymology of the word *educatio,* an explanation of its meaning may be necessary.

Everyone knows that his own inner experience is changing from moment to moment, and from day to day. New situations are always confronting him; with each change in conditions or in environment, his activities must change to fit the new situation. There are always arising problems that demand solution, choices that must be made, and readjustments that must be provided for. These changes in activities bring about an increasing diversification and enrichment of experience; in other words, experience is revised, reorganized, or reconstructed. This growing, changing, or revising of experience is what Dr. Dewey understands by education.

Dr. Dewey believes that this conception of the educational process has several important advantages over all former definitions. First of all, it "puts the meaning of education within the process." Again, it does away with the old-fashioned, formal notion that education begins when the child enters school and stops when he withdraws. According to this new view, education begins as soon as the child is born, and proceeds throughout life. Furthermore, this view of education corrects the erroneous idea that education is a preparation for life.

Educational end or aim. It has always been customary for educators to set up some ultimate aim for the entire process of education, and often also to define intermediate aims for each particular stage of development. One is rather surprised to learn that Dr. Dewey does not have any such aims. As he himself states in writing of education:[13]

> It has all the time an immediate end, and so far as activity is educative, it reaches that end—the direct transformation of the quality of experience. Infancy, youth, adult life,—all stand on the same educative level in the sense that what is really *learned* at any and every stage of experience constitutes the value of that experience; and in the sense that it is the chief business of life at every point to make living thus contribute to an enrichment of its own perceptible meaning.

From Dr. Dewey's point of view, the aim of education is found within the process itself, and not as a final goal to be reached; or rather, one may say that the aim is always the particular goal or end that is immediately before the attention and that elicits thought and activity. Education proceeds by constantly remaking experience, and it is this reconstruction which constitutes its value and accomplishes its aim.

As a process of continued revision or reorganization of experience, education is always moving forward to further activity and revision. As Dr. Dewey explains:[14]

> Since life means growth, a living creature lives as truly and positively at one stage as at another, with the same intrinsic fulness and the same absolute claims. Hence education means the enterprise of supplying the conditions which insure growth, or adequacy of life, irrespective of age. The process of education is a continuous process of adjustment, having as its aim at every stage an added capacity of growth.

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[13] Dewey, John, *Democracy and Education,* p. 89. New York, Macmillan, 1916.

[14] *Ibid.,* p. 61.

There never comes a time when new experiences fail to take place, when learning absolutely ceases. So long as the individual is readjusting himself to the changes in the environment, just so long he is learning and education is going forward. There is, therefore, no final end or goal when education is to be completed. Furthermore, the aims set up by the teacher or educator are not the aims which the child chooses for himself. They are outside of him, foreign to his nature, and consequently cannot be the aims of his education. Educational aims can be determined only by the nature of the child's own being.

Education a process of living. This conception of the continuous reconstruction of experience emphasizes the principle that education is not a preparation for life at some future time; rather, it is the process of actual living, here and now. The idea of educating for the future always presents a challenge to Dr. Dewey, and provokes a combat which he never wearies of fighting.

Another reason why one must not set up a final goal for the process of education is: such a remote aim cannot be made a live and appealing purpose for the child himself. Of this, Dewey says: [15]

> It is nonsense to talk about the aim of education—or any other undertaking—where conditions do not permit of foresight of results, and do not stimulate a person to look ahead to see what the outcome of a given activity is to be.

The child lives in the present. He knows nothing, and cares just as little, for the far-away future; in fact, he is wholly incapable of imagining the remote time "when he will be a man." This remote time cannot be a conscious aim for his striving. It is quite absurd, therefore, to require him to do things today for the sake of what he will be years from now. The adult is forever trying to make the child act upon ends which only the adult can foresee, but of which the child knows nothing.

As the child acts only in the living present, setting up approximate aims and readjusting his experiences as he goes along, the process of education is identical with the process of living. The continuous enrichment of experience by readjusting to the complexities of the environment constitutes, therefore, the heart of the educational process.

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[15] *Ibid.*, p. 119.

Two essential factors of the educational process. Dr. Dewey recognizes two fundamental factors in the educational process; one is the psychological, and the other, the social factor. There is, on the one hand, the individual child with all his native powers, capacities, and instincts; on the other, there is the social world with all its ongoing activities, institutions, customs, and attitudes.

(1) *The individual factor.* The process of education begins with the activity of the child. If he is incapable of normal activity, he is incapable of education. Dr. Dewey explains:[16]

> Education must begin with a psychological insight into the child's capacities, interests, and habits. . . . These powers, interests, and habits must be continually interpreted—we must know what they mean. They must be translated into terms of their social equivalents—into terms of what they are capable of in the way of social service. . . .
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> The child has his own instincts and tendencies, but we do not know what these mean until we can translate them into their social equivalents. We must be able to carry them back into a social past and see them as the inheritance of previous race activities. We must also be able to project them into the future to see what their outcome and end will be.

From this and many similar statements, one might expect Dr. Dewey to give a full account of the rise and development of the instinctive activities of children. But this he never does, except in a very general way. The fact is, these instincts do not exist in the child as mechanical forces that unfold in a predetermined way. They are mere tendencies to activity, and develop a real character only as they are brought into exercise in social situations. Their nature is constituted in and by social activity. Dr. Dewey mentions four such instincts, or fundamental interests, as the basis of education. These are: "the interest in conversation, or communication; in inquiry, or finding out things; in making things, or construction; and in artistic expression."[17]

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[16] Dewey, John, *My Pedagogical Creed,* Article I. Reprint, The Progressive Education Association, Washington, D. C.

Concerning the language interest, he notes that it "is the simplest form of the social expression of the child, hence it is a great, perhaps the greatest of all educational resources." But all four of these interests are brought into function in pursuing the great racial activities, such as getting food, securing shelter, and making clothing. These are the activities which have brought about the evolution of the human organism and society, and which must form the curriculum of the schools. The following passage fully illustrates this point of view:[18]

> The primary root of all educative activity is in the instinctive, impulsive attitudes and activities of the child, and not in the presentation and application of external material.
>
> That these individual tendencies and activities are organized and directed through the use made of them in keeping up the coöperative living already spoken of, taking advantage of them to reproduce on the child's plane the typical doings and occupations of the larger, maturer society, into which he is finally to go forth; and that it is through production and creative use that valuable knowledge is secured and clinched.

(2) *The social factor.* The nature of society and its relations to individuals are usually conceived in a wrong way. Individuals are thought of as separate entities or units; society is thought of as composed of so many separate individuals who come together to form an organization. They are like separate bricks in a wall. An individual cannot be regarded, according to Dr. Dewey, as a being apart from society. A brick might exist even if there were never a wall in the world, but a human individual could not exist if there were no society. The human being is an organism whose capacities for acting have been developed or brought into functional activity in relation to his fellows. It is the acquisi-

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[17] Dewey, John, *The School and Society* (Revised Edition), p. 45. Chicago, University of Chicago Press, 1916.

[18] *Elementary School Record,* p. 142. Chicago, University of Chicago Press, 1900.

tion of the characteristic social activities, responses, and modes of conduct that make the child human, and at the same time make him individual.

On the other hand, society is not just a number of individuals huddled together in an organization. In Dr. Dewey's theory, "society is an organic union of individuals." The organic life, activities, and purposes of society reproduce themselves in individuals. This reproduction takes place as the child comes to understand, appreciate, and appropriate, as his own, the purposes, ideas, and attitudes of the society about him.[19]

> *Mind* as a concrete thing is precisely the power to understand things in terms of the use made of them; a socialized mind is the power to understand them in terms of the use to which they are turned in joint or shared situations. *And mind in this sense is the method of social control.*

Social intercourse, relations, and interactions are the central factors in the evolution of the activities of the individual. The character of man's mind and all his knowledge has been the result of social living. Without such relations none of his powers would ever have developed. Knowledge, as such, has importance only because of its social significance. Language is the indispensable means of social intercourse; for this reason it plays a most significant part in education.

Social living and the child's powers. It is peculiarly the social situations of the family that first awaken into activity the powers of the child. Of this, Dr. Dewey says: "True education comes through the stimulation of the child's powers by the demands of the social situations in which he finds himself." The child engages in the home activities because he discovers they have a social meaning or significance and bring satisfaction to himself or to others.

At the beginning of his life, the capabilities of the child are as yet undeveloped. They are expressed and developed only as the child enters into relations with other people. It is, accordingly, through entering into social relations that the individual's powers are developed.

However, there remains another danger of misinterpreting this relation of the individual and society. In acquiring the social activities, the child utilizes them only with reference to himself and his own safety and pleasure. He is self-centered, selfish. But the continuance of society, the general good, the common weal demand that individuals shall consider the good of the whole. Individuals must be so developed that they will attempt to realize the ends and purposes of society. To accomplish this end, Dr. Dewey would organize the school for coöperative action.

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[19] Dewey, John, *Democracy and Education,* pp. 39–40.

Calling attention to this central need is Dewey's greatest contribution to education, and it is a contribution of the first magnitude. The idea of socialization is found in the other educational theorists of modern times; as a matter of fact, it has been emphasized by practically all of them from Comenius onward. One of the chief doctrines of Herbart is the development of "sympathy"; similarly, the doctrine of social unity is the central feature of Froebelian pedagogy. If there were no better explanation of the origin of Dewey's view, it could readily be attributed to the Froebelian influence upon the practice school which Dewey conducted in Chicago. But undoubtedly Dewey's doctrine had other more potent sources.

His conception of the importance of social life was probably the result of three great influences upon his thinking. First, Dr. Dewey was originally an adherent of the Hegelian philosophy, which looks upon society, as a whole, as an organism, and upon all institutions as organisms. Secondly, his major interest in graduate study at Johns Hopkins University brought him into contact with institutional history and anthropological ideas and with the evolution of man. Thirdly, his study of the Industrial Revolution and his contact with the rampant individualism of American life made him see that the greatest need of mankind at the present age is a new type of social, or coöperative, living.

The school as a social instrument. The ordinary conception of the school vizualizes it as a place where children go to learn things or to acquire information. It is a mere convenience for caring for children while they are growing up. Dr. Dewey, on the contrary, considers the school an institution essential to social life. It is not a mere temporary device but an absolute necessity.[20]

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[20] Dewey, John, *My Pedagogical Creed,* Article II.

> The school is primarily a social institution. Education being a social process, the school is simply that form of community life in which all those agencies are concentrated that will be most effective in bringing the child to share in the inherited resources of the race, and to use his own powers for social ends.

Dr. Dewey points out that the Industrial Revolution took the various industries out of the home, thereby robbing it of one of its chief educational functions. The industries had a direct social and educational significance, in that they stimulated the activities of the child. By contact with these activities, the intelligence of the child was awakened, and through participation in such social living his purposefulness was exercised.

The office of the school is to furnish a social environment in which the real, vital, meaningful activities of the race are "simplified," "purified," and "balanced," so as to appeal to the interests of the child. "The primary business of the school is to train children in coöperative and mutually helpful living." It reduces social life "to an embryonic form." Existing life is too complex for the child to grasp and enter into. As a "simplified social life, the school life should grow gradually out of the home life." It should "take up and continue the activities with which the child is already familiar in the home."[21]

Direct experience the basis of all method. None of the modern educators, except Rousseau, have been more insistent than Dewey upon direct, specific experience. However, it is not so much the actual objects that he values as it is the concrete and meaningful situations. Inasmuch as learning comes indirectly in response to action, the situations which arouse activities furnish the natural condition for the growth of knowledge. Dr. Dewey emphasizes this point of view at length:[22]

> The first approach to any subject in school, if thought is to be aroused and not words acquired, should be as unscholastic as possible. To realize what an experience or empirical situation means, we have to call to mind the sort

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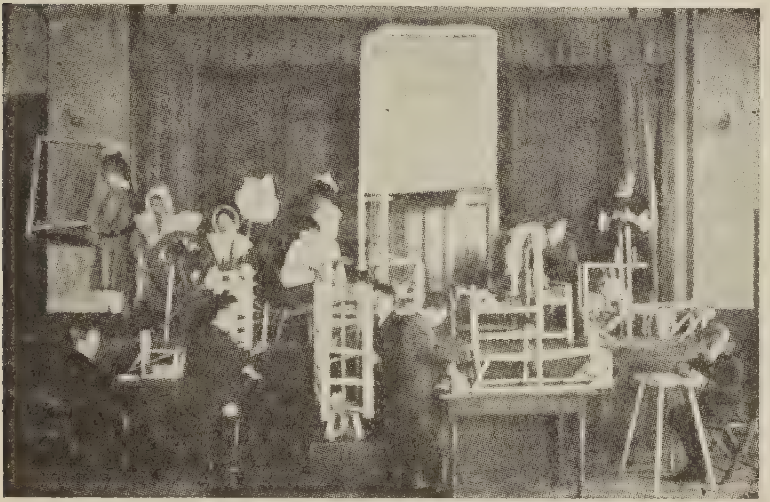
[21] *Ibid.*, Article II.

[22] Dewey, John, *Democracy and Education*, p. 181.

> of situation that presents itself outside the school; the sort of occupations that interest and engage activity in ordinary life. And careful inspection of methods which are permanently successful in formal education, whether in arithmetic or learning to read, or studying geography, or learning physics or a foreign language, will reveal that they depend for their efficiency upon the fact that they go back to the type of situation which causes reflection out of school in ordinary life. They give the pupil something to do, not something to learn; and the doing is of such a nature as to demand thinking, or the intentional noting of connections; learning naturally results.



Francis Parker School, Showing Cotton Spinning and Weaving Activities.

Not only does he demand that concrete situations be furnished the child in order to call forth his activity, but he insists that all learning must come to him as a by-product of his actions, and never as something to be learned directly for its own sake. The Egyptians had to reset the boundaries of their farms after the annual inundation of the Nile. From this practical situation they learned to measure and to count. Similarly, the Phoenicians, in making records of their commercial accounts, had to operate rapidly and accurately, and thus originated the alphabet and cursive script. The separation of fiber from the bolls of cotton was a most laborious process, and made the price of cotton goods excessive. This practical situation challenged Eli Whitney, and the result was the cotton gin. Need, or necessity, is the mother of all invention, and of all knowledge or new experience.

Interest, effort, and motivation. In the last decade of the 19th century, American education was introduced to the Herbartian doctrine of interest. Combined with the Froebelian doctrine of self-activity, as practiced in the kindergarten, and the new emphasis upon child development, the doctrine of interest everywhere challenged the traditional pedagogy. The traditionalists believed in formal discipline. They held that the new doctrine was a "soft pedagogy," and would not prepare children to face the difficulties and hardships of actual life. Moreover, allowing the child to learn only what was pleasant to him would break down the high standards of scholarship and open the schools, especially the secondary and higher schools, to dilettante, effortless work. This conflict challenged the philosophic insight of Dr. Dewey. He undertook to clarify the problem by showing that all true effort springs from a deep, native interest in the task. He asserted that, where such genuine interest is absent, it is necessary to arouse it; for to depend on artificial stimulation is functionally bad. Moreover, he declared that all learning which results from such artificial motivation is morally wrong.

In order to be sound and morally valuable, all learning must arise from the normal experience of the child. Only those objects and ideas will solicit the attention which are of genuine interest to the organism and necessary for its ongoing life. Genuine concentration of attention and effort of will can be put forth only for that which is of genuine interest. In this way, Dr. Dewey explained the weakness of the position which holds, because a thing is distasteful and uninteresting, it is therefore by some magical virtue pedagogically strengthening. Out of Dewey's doctrine of interest came a new appreciation of the doctrine of motivation.

The curriculum. One may readily guess that Dr. Dewey has little sympathy with the traditional curriculum, or any course of studies that divides knowledge into particular branches. There is nothing in the outer world corresponding to a logical schematization of subject matter. It is only the logical interest of the adult that has divided the world into abstract departments of knowledge. According to Dr. Dewey's point of view, the mind of the young child does not make divisions of its fund of experiences into various subjects.[23]

> We violate the child's nature and render difficult the best ethical results by introducing the child too abruptly to a number of special studies, of reading, writing, geography, etc.

The mind of the child is not interested as yet in the logical ordering of subject matter. The work of summarizing, systematizing, tabulating, and gathering into rules, is the work of advanced—and, it may be, dying—mentality. For the mind of the child, the correlating center is his own living interest, the problem confronting him, his social need. As Dr. Dewey expresses it: [24]

> The true center of correlation of the school subjects is not science, nor literature, nor history, nor geography, but the child's own activities.

The underlying element that unifies life and activities must, therefore, be found in the child's active life and not in his logical formulations.

The school should not begin with the three *R*'s, but with the activities that the child has seen in the home, the activities that constitute the great racial functions.[25]

> The beginning is made with the child's expressive activities in dealing with the fundamental social materials—housing (carpentry); clothing (sewing); food (cooking). These *direct* modes of expression, at once require the derived modes of expression, which bring out more distinctly the factors of social communication—speech, writing, reading, drawing, moulding, modeling, etc.

In his primary or practice school, Dr. Dewey began with the activities with which the child is familiar in home life.

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[23] Dewey, John, *My Pedagogical Creed,* Article III.

[24] *Ibid.,* Article III.

[25] Dewey, John, *Plan of Organization of the University Primary School.* Privately printed.

These activities make the most natural appeals to his interest. They arouse the constructive instinct, and bring not only nerve and muscular coördinations but all aspects of the mind into functional activity. In the first six grades Dr. Dewey emphasized occupations: number, music, art work, shop work, cooking, sewing, science, geography, reading, writing, history, and gardening. It must be understood, however, that none of these were taught as formal subjects. They were all learned in connection with the situations and problems that arose in connection with the activities of the children.

Greek Jar Made by Eleventh-Grade Pupil, in the Francis Parker School.

Among the things constructed in connection with their woodwork were: sandpaper blocks, boxes for pencils, boxes for matches, plant trellises, paper cutters, bookstands, and similar articles. The food interest led to cooking, baking, studying sources of food materials, and so on. The clothing interest furnished opportunities not only for hand work but also for study of the origin of fabrics and their manufacture.

From these constructive activities the experience of the child was directed to the actual world, where he might learn from observation to understand agriculture, transportation, industrial activities, and the problems of distribution, the buying and selling of commodities. He was led back into history to find the origin of all these activities in primitive life. In such activity the child acquires the facts of arithmetic, geography, history, botany, chemistry, the use of language, and other formal subjects.

Greek Jars Cast, Finished, and Decorated by Fourth-Grade Pupils, from Wooden Patterns Turned by High School Boys, in the Francis Parker School.

In connection with the school itself, many activities demanded coöperative action in constructing things that the children needed—such as equipment for the laboratories, bicycle stands, apparatus for physical exercises, bird houses, gins for cotton, Indian tents, racks, and so on. All these activities and many others brought each child into active relation with his fellow workers and furnished opportunity for coöperative effort. In fact, the entire management and work of the school were designed to make the child conscious of community purposefulness, and to train him in coöperative action.

Conclusion. It is impossible as yet to estimate the significance of the work and ideas of Dr. Dewey. There have been attributed to him many practices which actually are due to other innovators. Moreover, it is as yet too early to foresee just how much of his special point of view will endure the test of future reflection. The functional theory, interest, the project method, and the problem method are important contributions, but they are not particularly original. How far each can be utilized in education is still a matter of dispute. The movement for constructive activity or creativity in education had its origin in Froebel, but was confined in its influence to the kindergarten. Furthermore, the kindergarten practice was rather too formalized to represent completely the principles of Froebel. The child-study movement of G. Stanley Hall and the experimental method of John Dewey cooperated in liberating the creative activities of childhood, and in reconstructing our methods of education. It would seem that Dewey's emphasis on socialization has come nearer to an enduring contribution. This also is not new, for it is found in all the great reformers. It was the definite practice of the kindergarten. But Dewey clarified the relation of all knowledge and productive activity to social living. Moreover, he introduced the principle into the school above the kindergarten. It must be remembered, however, that he is still revising his views and adding to his contributions.

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CHAPTER XXIII

RECENT DEVELOPMENTS AND REORGANIZATION

1. Elementary Education

Remarkable progress has been made in every aspect of educational activity in this country during the past half-century. The changes that have taken place have been more numerous and rapid than in all our former history. To understand these transformations, it is necessary to appreciate the tremendous social and economic developments that formed their background, and made educational progress not only possible but also necessary.

Social developments. The greatest transformation in social conditions is that which is commonly known as the Industrial Revolution. This term is somewhat loosely used to designate the change from a society that was predominantly agricultural to one that is industrial; from the crude production that was performed in the homes of the people to the elaborate industries concentrated in the huge manufacturing plants. This great movement began in western Europe during the middle of the 18th century, and was fully established by the middle of the 19th century. For obvious reasons, similar changes did not fully begin in America until the Civil War, but they have continued well into the 20th century.

It was natural that the Industrial Revolution should have had a most significant effect upon education. First of all, the concentration of the population in industrial centers greatly increased the demand for more education for the masses. The reason for this is evident in the changed conditions of child life. Removing the industries from the home had four important results: (1) The new practice put an end to the direct contact of children with the various industrial processes. (2) It robbed children of the benefits that arise from participation in the varied activities of family life. (3) The necessity of occupying the time of children made for the development of the school. (4) The increased demands of commercial and social life necessitated more knowledge on the part of the average citizen.

Not a few students of educational history have defended the thesis that the common school movement, which brought about universal education in all western countries, was due primarily to the Industrial Revolution. They have pointed out that Pestalozzi's intense interest in popular education was caused by his contact with the demoralizing effects of the Industrial Revolution upon the lower classes of people in Switzerland. Again, it is well known that the reforms, in Scotland and England, of Robert Owen, Joseph Lancaster, Robert Raikes, and others were occasioned by sympathy for the sorry plight of children caused by the new industrialism. The same motive brought about the common school revival under Horace Mann and Henry Barnard. Finally, John Dewey assigns the Industrial Revolution as the reason for the development of the educational reform of the past generation.

There can be no doubt that the changed conditions of social and industrial life have had a most potent influence upon educational policies, but it is easy to overestimate the effect of the Industrial Revolution. The triumph of political democracy a century or more ago and recent emphasis upon ideals of social democracy have been more fundamental causes of the demand for universal education in this country.

There have been numerous associated factors which have played a part in the advancement of education during the past half-century. Among these must be mentioned the growth of population, especially in the cities. In 1890, the population of continental United States was 62,947,714. In the past forty years, it has practically doubled. In recent decades, the population of the cities of over 2,500 inhabitants has increased beyond the rural population. Another important factor was the increase in the wealth of America. Much of the elaboration of education and its extension upward have been directly due to the increase in wealth. Again, restrictions against child labor, on the one hand, and compulsory attendance laws, on the other, have done more than any other factors to equalize educational opportunity.

Compulsory public school attendance. The adoption of the policy of compulsory attendance has been one of the significant educational phenomena in the United States during the last hundred years. The first adoption came as a result of the efforts of Horace Mann, and was introduced into Massachusetts in 1852. The idea of compulsory attendance was in accord with the theory of government and of civil and social order that obtained in the North, but it was quite contrary to the attitude of the people of the South. As a consequence, the southern states did not begin to adopt the compulsory feature until long after the Civil War, but all of them took this step before the end of the second decade of the present century.

ADOPTION OF COMPULSORY SCHOOL ATTENDANCE

Year	*State*	*Year*	*State*	*Year*	*State*
1852	Massachusetts	1883	Rhode Island	1902	Iowa
1867	Vermont		Illinois		Maryland
1871	New Hampshire		North Dakota	1905	Missouri
	Michigan		South Dakota		Tennessee
	Washington		Montana	1907	Delaware
1872	Connecticut	1885	Minnesota		North Carolina
	New Mexico	1887	Nebraska		Oklahoma
1873	Nevada		Idaho	1908	Virginia
1874	New York	1889	Oregon	1909	Arkansas
	Kansas		Colorado	1910	Louisiana
	California	1890	Utah	1915	Texas
1875	New Jersey	1895	Pennsylvania		South Carolina
	Maine	1896	Kentucky		Florida
1876	Wyoming	1897	Indiana	1916	Georgia
1877	Ohio		West Virginia	1918	Mississippi
1879	Wisconsin	1899	Arizona	1919	Alabama

2. Secondary Education

Problem of organization. The coördination of the elementary school, the high school, and the college, which resulted in our present articulated system, after half a century of effort was completed by 1880. It soon became apparent to educational observers, however, that this plan of organization was not satisfactory; a new series of problems arose during the last decade of the 19th century.

The new crisis. In 1888, Dr. Charles W. Eliot, of Harvard University, brought the weaknesses of the system to public attention in an epochal address at the Washington meeting of the Department of Superintendence. His subject was: "Can

School Programmes be Shortened and Enriched?" He opened his address with the following challenging statement: [1]

> In the process of improving the secondary schools, colleges, and professional schools of the United States,—a process which has been carried on with remarkable energy since the Civil War—certain difficulties have been created for the higher education in general, and particularly for colleges. These difficulties have to do with the age at which young men can get prepared for college, and therefore with the ages at which boys pass the successive stages of their

CHARLES W. ELIOT.

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[1] Eliot, Charles W., *Educational Reform,* p. 151. New York, Century, 1898.

> earlier education. The average age of admission to Harvard College has been rising for sixty years past, and has now reached the extravagant limit of eighteen years and ten months. Harvard College is not at all peculiar in this respect; indeed, many of the country colleges find their young men older still at entrance. The average college graduate is undoubtedly nearly twenty-three years old at graduation; and when he has obtained his A.B. he must nowadays allow at least three years for his professional education.

Dr. Eliot pointed out that the highly organized school systems of Europe graduated their students from three to five years earlier than the American. In his report as president of Harvard for 1888–1889, he made the further statement:

> Wherever the fault and whatever the remedy it is clear that the degree of Bachelor of Arts is taken in the United States later than in any other country in which the degree is used, and too late for the best interests of the individuals who aspire to it, and of the institutions which confer it.

He laid the blame for this undue prolongation of education at the doors of the elementary and the secondary schools. His strictures proved to be genuinely provocative.

Critical examination of the school system. The criticisms of Dr. Eliot had many important results in all parts of the system. The new impetus began first in secondary education. In 1892 the National Education Association appointed the Committee of Ten, with Dr. Eliot as chairman. This committee investigated the organization and curriculum of secondary schools, and made one of the most significant reports ever compiled in this country. It led to radical changes in the character of the courses offered in the high schools throughout the United States. But what was most important, out of this report came the feeling that a fundamental reorganization of secondary education was essential—a feeling which led at a later date to some profound changes that are still in progress.

Elementary education was also affected by Dr. Eliot's criticism of the school system. In 1893 the National Education Association appointed the Committee of Fifteen to study the organization of the elementary system, the coördination of studies, and the training of teachers. The results of the report of this committee were not so far reaching as those of the committee on secondary education, but they brought about, nevertheless, a study of various means to break up the lock-step system and to facilitate the progress of more gifted pupils.

In the field of higher education, also, important results followed Dr. Eliot's report. The problem of reorganization of the standard four-year college was warmly discussed for a decade or more. The rapid growth of graduate instruction and of the higher professional schools gave an added incentive to the movement to shorten the time for general education, without, however, making it less effective. Some college presidents favored shortening the college course to three years, and some, even to two years. In the end it was decided not to shorten the time but to change the form of organization of the college course. The class system of instruction, with its fixed curricula, was abandoned, and in its place the course and credit system was adopted. This change furnished a much needed elasticity; it permitted the brilliant student to shorten, by more intensive work, the time necessary for securing a degree. The most far-reaching result that came out of the discussion was the emergence of the junior college movement, which will be considered later in more detail.

Evolution of secondary education. The most significant developments of American education during the past fifty years have been in the sphere of secondary education. The first of these, and one which conditioned all the others, was the astonishing growth of secondary schools and the tremendous increase in attendance. The second was the rise of the junior high school; and the third, the establishment of the junior college.

Growth of secondary education. Absolutely reliable statistics of the number of secondary schools and of their enrollments are not available. The most satisfactory figures are based upon the reports of the United States Bureau of Education, but even these reports are only approximately correct. The table on page 886 shows, however, the magnitude of the increase in secondary education for each decade since 1890.

A study of this table shows that the total number of schools has increased approximately six and one-half times, that the total number of pupils has increased approximately sixteen

INCREASE IN SECONDARY SCHOOL ATTENDANCE
(CONTINENTAL UNITED STATES)

Schools	*1890*	*1900*	*1910*	*1920*	*1930*[a]
NUMBER OF SCHOOLS					
Public	2,526	6,005	10,203	14,326	23,930
Private	1,632	1,978	1,781	2,093	2,760
Total	4,158	7,983	11,984	16,419	26,690
NUMBER OF PUPILS					
Public	202,963	519,251	915,061	2,199,389	4,399,422
Private	94,931	110,797	117,400	184,153	341,158
Total	297,894	630,048	1,032,461	2,383,542	4,740,580
PUPILS PER 1,000 OF POPULATION					
Public	3.2	6.8	10.0	17.6	35.8
Private	1.5	1.5	1.3	5.7	2.7
Total	4.7	8.3	11.3	23.3	38.5
NUMBER OF GRADUATES					
Public	21,882	61,737	111,363	230,902	591,719
Private	8,070	12,216	14,409	24,166	51,447
Total	29,952	73,953	125,772	255,068	643,166

[a] "Biennial Survey of Education, 1928–1930," in *Office of Education, Bulletin* (1932), No. 20.

times, and that the number of graduates has increased over twenty-one times. Considering that the population has merely doubled, one receives from these figures some slight conception of the tremendous educational progress that has been made in this country. It is well, however, to reflect that the increase in numbers has hardly been accompanied by a commensurate gain in quality of work performed.

The junior high school. The junior high school is an innovation that sprang up soon after the beginning of the 20th century. The chief cause of the movement lay in the desire to begin secondary studies earlier than the regular high school permitted. At the same time there arose the conviction that the study of the elementary branches was being unnecessarily prolonged. The eight grades devoted to elementary work were a prolific waste of time, especially for brighter children. The junior high school was, therefore, established in the interests of economy of time and greater efficiency in secondary school work. Another important factor, which played a decisive role in its establishment, was the study of adolescent life. Because of the new knowledge of adolescence, the grades organized into the junior high school correspond roughly to the years of puberty.

The junior high school is an institution with a transitional function; it takes the child just before puberty, and holds him for a period of two or three years during which momentous physical, psychological, and social readjustments are being made. The curriculum has been reorganized to harmonize with these psychological and other needs of adolescent life. The work is largely exploratory in character.

The first junior high school was established in Berkeley, California, in 1910, although Los Angeles is also a contender for the honor. Comparatively few such schools were established before the close of the World War. The development in recent years has been more rapid.

GROWTH OF THE JUNIOR HIGH SCHOOL
(CONTINENTAL UNITED STATES)[a]

Year	*Number of Schools*	*Number of Pupils*
1910	1	
1922	510	233,617
1924	696	428,722
1926	980	639,516
1928	1,182	827,363
1930	1,363	984,944

[a] These statistics are from cities of 10,000 or more population.

The primary purposes of the junior high school are now generally accepted as follows: (1) To offer a broader and richer type of training in grades seven, eight, and nine; (2) to care for individual differences; (3) to furnish a more effective transition to higher secondary studies; (4) to furnish educational and vocational guidance at an earlier stage; and (5) to insure economy of time in secondary education.

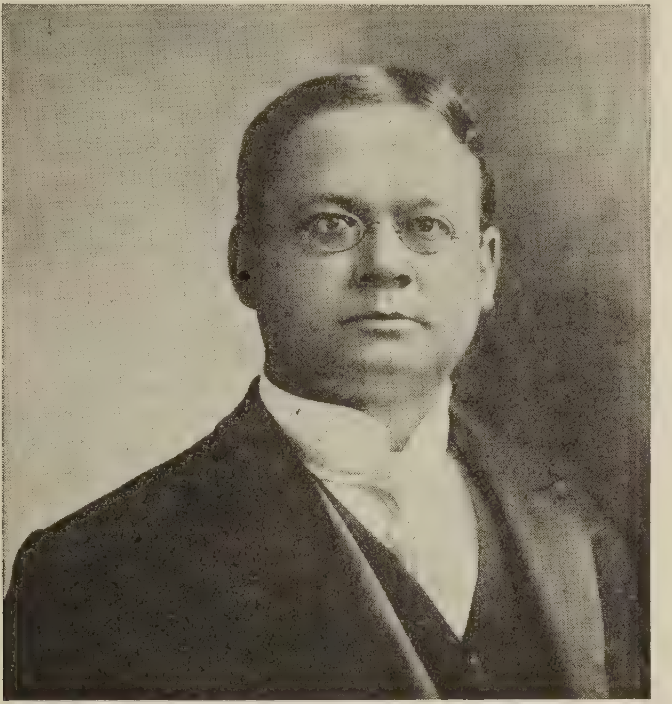
3. The Junior College

Origin of the junior college. All in all, the junior college movement is the most significant event that has taken place in higher education since the establishment of Johns Hopkins University, in 1876, as a graduate university. The original gestures for such a movement were made by Dr. Henry P. Tappan, president of the University of Michigan, and by Col. W. W. Folwell, president of the University of Minnesota. But these gestures were quite premature. The necessary conditions for the realization of such ideals of secondary and higher education did not appear until the end of the century, when the articulated high school and the graduate university had fully developed. The junior college was fundamentally due to the realization, on the part of American educators, that the first two years of the standard four-year college belong to the secondary field. In the effort which was made between 1825 and 1875 to raise the old-fashioned college to the level of the European university, the standard of scholarship had advanced two years above what it had been. When the graduate school appeared, however, it was clear that the colleges had not been wise in aspiring to university rank. In curriculum, methods, and age of students, the first two years of the standard college remained on the secondary level. The situation became acute during the last decade of the 19th century, and demanded a change in organization.

The chief leaders in the movement to establish junior colleges were Dr. William Rainey Harper, first president of the University of Chicago, and Dean Alexis F. Lange, of the University of California. There was no collaboration; yet, although they worked independently, they had the same objective in view. At the time of the organization of the University of Chicago, Dr. Harper gave the work of the first two years of the College of Arts and Sciences a separate status, with the title "Academic College." Students who passed the courses of these years were given the recognition of "Associate in Arts."

Dr. Harper also undertook a movement to affiliate a large number of small colleges with the University of Chicago, by accepting their work through the sophomore year. In response to his efforts, Lewis Institute was opened in Chicago in 1896, as such an affiliated junior college. The next year, Bradley Polytechnic Institute, of Peoria, Illinois, was established on the same basis. Dr. Harper was a member of the boards of these institutions. Through the American Baptist

Education Society, whose policies he dominated, he influenced the establishment of the first denominational junior colleges in Texas and other southern states. Another aspect of his plan was to induce public high schools to add two years of college work to their curricular offerings. Some half-dozen high schools took this step, but the only one that continued was the township high school at Joliet, Illinois. In 1902 this became the first public junior college. From these beginnings the junior college movement later spread throughout the Middle West and the South.



William Rainey Harper.

Dean Alexis F. Lange first received the idea of the junior college during his student days at the University of Michigan, where it had been suggested by Dr. Tappan. Through the efforts of Dean Lange, the State of California enacted the first junior college law in 1907. Under this law the establishment of public junior colleges began in 1910. After that time the number of junior colleges in California increased with remarkable rapidity; later the movement spread to a number of other states. The work of the American Association of Junior Colleges has had a marked effect in the rapid growth of the movement since the World War. The following table is only approximately correct; it takes into account only the living colleges since 1900. A considerable number of the early ones have ceased to exist; and some have become senior colleges. The latter have not been tabulated. There are in existence today in continental United States, according to the latest statistics, 514 junior colleges with an enrollment of 103,530 students.[2] This movement has shown a tendency to spread to our insular possessions and also to several foreign lands.

GROWTH OF THE JUNIOR COLLEGE
(CONTINENTAL UNITED STATES)

Period	*Number of Colleges*
1896–1899	7
1900–1909	14
1910–1919	91
1920–1929	307
1930–1933	68

Causes of the junior college movement. The chief underlying cause of the junior college movement was the realization that the first two years of college work were secondary in character. But the rapid and extensive establishment of junior colleges during and after the World War has been due to a number of contributory causes. Among these the following have been the most potent.

(1) The movement for standardizing higher institutions of learning brought about by the Carnegie Foundation was directly responsible for changing the status of many institutions struggling to be standard colleges. Numerous private colleges found they could not maintain the high standard of scholarship adopted by degree-granting institutions. The

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[2] The January issue of the *Junior College Journal* publishes a complete list of junior colleges each year. Stanford University Press, Stanford University, California.

small institutions did not have funds adequate for efficient instruction in the upper years; and when they did offer such work, it was not accredited by the higher institutions.

(2) Many professional schools required just two years of college training. This practice stimulated the colleges to restrict the level of their offerings to these two years.

(3) The lowering of the age of high school graduation caused many people to favor local junior colleges in order to keep their children at home until they were more mature.

(4) The long distance to the universities in many western states favored the growth of local junior colleges.

(5) The popular demand for a higher finishing point than that afforded by the high schools was supplied by the junior college.

(6) The increase in postgraduate work in the high schools favored the development of this new institution.

(7) The increased expense of university attendance, especially since the World War, has caused many students to go to the junior colleges.

(8) The tremendous increase in freshman and sophomore enrollment induced many large universities to favor the establishment of junior colleges.

(9) The desire to keep its wealth within the local community aroused powerful interest in the local junior college.

(10) The failure of the universities to adjust their methods and discipline to the needs of freshmen tended to encourage the establishment of junior colleges.

(11) The desire for more personal attention to the needs of the individual student, the overcrowding of the university classes, and the lack of university dormitories have had far-reaching influence.

(12) The demand of vocational preparation for the minor professions and for vocations above the high school level has also stimulated junior college development.

Recent trends in junior colleges. The most recent trend in this field is the establishment of the four-year junior college. This plan of organization unites the last two years of the standard high school with the first two years of the college, and thus forms a new unit. The new plan has been effected most widely in the Middle West and in California. The University of Chicago recently separated the junior college from the senior years of its college of arts and sciences, and has organized a four-year junior college. There has appeared also, to some degree, a tendency to drop the term *junior* and to call these institutions simply *colleges*.

The establishment of the four-year college unit in connection with public schools has brought about a regrouping of the grades in a number of instances. Many leaders in educational administration are now proposing the reorganization of the public school system in the larger communities on what is termed the "6-4-4" plan, which calls for a six-year elementary school, a four-year intermediate school, and a four-year college. This development is still purely in the experimental stage.

4. Other Recent Developments in American Education

Expansion and diversification. Since the beginning of the 20th century, professional education has evolved to bewildering proportions. Before 1880 there were in this country but few normal schools for the training of teachers. The first university chair for the teaching of education that became permanent[3] was established at the University of Michigan in 1879. Only two, or possibly three, other such chairs were in existence at the time in the English-speaking world. At the opening of the 20th century, the total number of professional education courses offered in all institutions was scarcely more than twenty or thirty different courses; now, the offerings in this field have reached an astounding total between six and seven hundred courses in all. No senior college or university is without some of these courses, and in most instances separate departments or schools of education have been organized for specialization in this field. The study of education has been so vastly specialized that today practically every aspect is being meticulously investigated.

Advancement has likewise been made in the establishment and development of agencies for the wider diffusion of knowledge. Among the innumerable special institutions and organizations that have arisen are: night schools, summer schools, correspondence schools, schools for defectives, parent-teacher associations, and so on. Much valuable experimentation in new methods is being conducted in various parts of the country. Under the direction of the Federal Government, distinct advancement has been made in vocational education. A vast amount of progress has been made in physical education and health; in educational psychology, including tests and measurements and educational surveys; and in many other fields.

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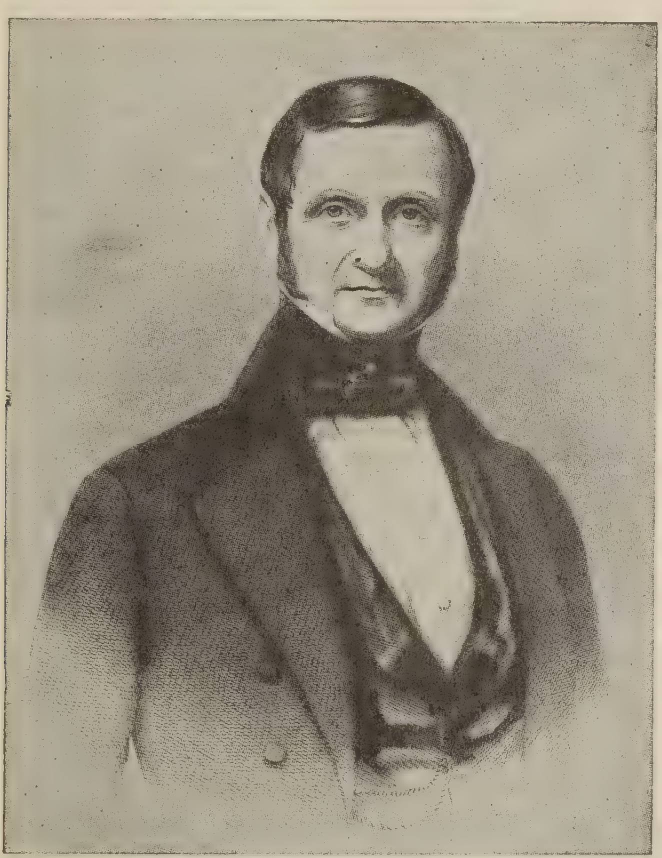
[3] Sporadic attempts to offer courses of lectures on education were made in American colleges and universities before this. See Monroe, Paul, *Cyclopedia of Education,* Vol. 2, pp. 406–409. New York, Macmillan, 1913.



George Peabody.

Educational foundations. A striking development in American education since the Civil War has been the establishment of a number of boards and foundations for promoting research in education, for improving the schools of certain sections of the country, and for publishing studies of special interest to educators. There were in 1930 fifty-six of these boards and foundations listed in the *Directory,* issued by the United States Office of Education.

First among the prominent funds was the Peabody Fund of $3,000,000, established by George Peabody, of Massachusetts, in 1867 for the promotion of education in the South. Other prominent foundations include: the Carnegie Foundation for the Advancement of Teaching, the Commonwealth Fund, the General Education Board, the Rockefeller Foundation, the Laura Spelman Rockefeller Fund of New York, and the John Simon Guggenheim Memorial Foundation. Mr. Andrew Carnegie and Mr. John D. Rockefeller, Sr., have been particularly notable benefactors of education.

For Further Study

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CONCLUSION

REFLECTIONS ON FOUR CENTURIES OF DEVELOPMENT

It is now four centuries since the breaking down of medieval civilization, with its feudalistic institutions, monastic ideals, and scholastic philosophy. During these centuries, numerous cultural changes have taken place, and many new social and political movements have arisen. There are historians who question whether, on the whole, there has been substantial human progress, and who, moreover, believe that human existence was as happy, if not happier, in the later Middle Ages than it now is. If one accepts Guizot's definition of civilization as "the art of living together," there has, doubtless, been genuine progress along many lines. In the main, however, advance has not been steady and equally distributed, nor has it been commensurate with possibilities or expectations. Again, though many people question whether, in general, individual human existence has been better integrated and enriched and happiness enhanced, there can be little doubt that the conditions which are essential to genuine progress both for the individual and for western civilization are found in more ample measure in the present than they were at any time in the past. Lack of more substantial progress in the most vital concerns of human life is due primarily to want of individual initiative and insight and to a striking inefficiency in mass action.

Educational Changes

The most significant educational developments that have taken place may be briefly summarized as follows.

I. CHANGES IN FUNDAMENTAL PRINCIPLES AND ATTITUDES

(1) The development from scholastic philosophy, with its conception of a perfect revelation and complete knowledge, to the idea of knowledge as relative and instrumental.

(2) From the idea of society as unchangeable and life as determined, to the theory of indeterminate social evolution.

(3) From the feudalistic conception of social organization, with sharply defined classes and ranks, to the democratic doctrine of inalienable natural rights and of individual ethical and social worth.

(4) From the primitive conception of a closed and earth-centered universe to the scientific conception of a heliocentric, infinite universe, and later to the theory of relativity.

(5) From an age of suppression and conventionalization of personality, to one of the free development and the integration of personality by means of self-expression.

(6) From manners that were crude and discipline that was harsh and injurious, to refinement, taste, and gentility and the ordered discipline of educative activities.

(7) From a narrow, dogmatic body of knowledge, fixed in content, to encyclopedic expansion along every line.

(8) From the doctrine of total depravity, to the doctrine of non-moral character of inherited traits.

(9) From a command of a few of the processes of nature, to the limitless control of the forces of nature and an extraordinary application of the sciences to the arts and industries.

(10) From a traditional philosophy and psychology which separated man from nature, to a new world-perspective that explains man and all his institutions as the product of evolutionary forces.

(11) From unity of social feeling and religious life, to intensive nationalism and ecclesiastical diversity.

(12) From a civilization in which only the favored few received schooling, to one in which literacy and a fair degree of education are a genuine ideal for all peoples and an attainable goal for most of them.

(13) From a few stereotyped and vocationalized forms of training to one of general culture followed by extreme diversification so far as vocation is concerned.

II. CHANGES IN ORGANIZATION OF EDUCATIONAL OPPORTUNITIES

(1) From the dominance of the church and of religious ideals of education, to the supremacy of the state and secularization.

(2) From the school as a mere adjunct of the church, to the school as an organ absolutely essential for the socialization, or humanization, of each succeeding generation.

(3) From a simple and uniform organization of schools, to one that is vastly diversified and has distinctive nationalistic forms.

(4) From the cloistral school with its isolation, to the modern type that includes the laboratory, training out-of-doors, free observation, and so on.

(5) From separation of the sexes, to coeducation.

(6) From voluntary, to compulsory school attendance.

III. CHANGES IN CURRICULUM AND METHOD

(1) From a curriculum based upon traditional and adult education, to curricula based upon the natural activities of the child as these are related to the great cultural activities of the race.

(2) From a curriculum fixed, narrow, and linguistic, to one that is rich in substantial knowledge and includes also a growing body of knowledge adapted to special needs. At the beginning of the period, Latin was the only language of culture; today, comparatively few students receive instruction in this language.

(3) From an education that trained wholly for the future, to one that trains for the future but does not anticipate it in the thought or conduct of the child.

(4) From an education largely for outer ornamentation or show, to the development of natural capabilities of children.

(5) From an education of the mind alone, to one of the entire organism—physical, social, and mental, in unison.

(6) From a verbal knowledge acquired by memory, to scientific insight acquired by activities in controlled environments.

The science of education. In recent days the problems of education have grown vastly complex. Four centuries ago, the best literature on the subject embraced merely the empirical theories and practices of a few ancient writers. Today, the world is alive to the importance of a thorough science and philosophy of education, and educators are striving to attain them.

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